The Illustrations and Work of William Archer

by

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Signed statement of originality

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THE ILLUSTRATIONS AND WORK OF WILLIAM ARCHER – ABSTRACT

In 2003 the Tasmanian Museum and Art Gallery (TMAG) received a donation of 33 botanical illustrations of Tasmanian native orchids from the Lorimer family. These illustrations created in the 1840s, 50s and 60s were by Tasmanian-born artist William Archer (1847–1874).

Archer was prominent in many fields of early Tasmanian and Australian history. As a politician he was a member of Tasmania's first freely-elected Parliament. It is as an architect that Archer has been known in the past, designing some of Tasmania's landmark buildings. He was a member of arguably one of the greatest landholding dynasties in Tasmania.

Archer's botanical as well as artistic input to what has been called the most important publication on Australian flora, Joseph Dalton Hooker's *Flora Tasmaniae*, has not been fully recognised to date. The thesis shows that Archer's contribution to the science of this book is not only worthy of his already recognised status as the first Australian born botanical artist, but that he should also be recognized as one of the great early pioneers of Australian botany and herbarium collectors.

The thesis investigates the TMAG illustrations and a previously unpublished collection of a further 36 Archer orchid illustrations held by the Linnean Society in London. It compares them with the orchid plates in *Flora Tasmaniae* which were based on many of these illustrations. The thesis argues that the small changes made by Walter Hood Fitch (the lithographer)

are in some cases significant and impact upon our understanding of the morphology of the plant.

Archer went to England in 1857 to work with J D Hooker on *Flora Tasmaniae*. This thesis proves that Hooker acknowledged Archer's significant botanical contribution throughout the text of the publication, citing the many cases where it was Archer's advice and knowledge that he relied upon for the identification and classification of species. The thesis also shows that Archer had assembled a herbarium of great scientific importance that Hooker again relied upon, and that he allowed Archer access to the herbarium at Kew to add to his herbarium. This herbarium was eventually lost to Tasmania when it was purchased by Hooker after Archer's death and amalgamated it into the Kew Herbarium.

Archer was a life member of the Linnean Society of London, and a Member of the Royal Society of Tasmania since 1847. He became Secretary of the Royal Society of Tasmania in 1861. He wrote and presented a number of scientific papers to the Society. Archer was the only Australian plant collector of Hooker's who went on to study and illustrate the specimens he was collecting instead of merely sending them to England for the English scientists to work on.

The thesis acknowledges the other aspects of Archer's life, but is the first comprehensive study of Archer's role in nineteenth century Australian botany and botanical illustration.

Acknowledgements

This thesis is dedicated to the memory of my mother Jenny Dagmar Houchin who inspired my interest in art and in orchids.

There are many people who helped make this thesis possible. I especially wish to thank my supervisor, Jonathan Holmes, and co-supervisor Andrew Rozefelds –Tasmanian Museum and Art Gallery, for their unfailing support, enthusiasm and constructive criticism.

I would also like to thank; The Tasmanian Museum and Art Gallery, first for the project, and also for allowing me to use copies of their William Archer illustrations; The Linnean Society for allowing me to use their William Archer illustrations; Susan Rothwell, who made possible the photography of the Linnean Society illustrations with her generous donation; The Royal Society of Tasmania for allowing me to photograph their copy of *Flora Tasmaniae*; Gerrard Dixon at the University of Tasmania for photographing *Flora Tasmaniae*; the staff at the Tasmanian Herbarium, especially Alex Buchanan; Gina Douglas at the Linnean Society and Juliet Wege Australian Botanical Liaison Officer at the Royal Botanic Gardens Kew for the help in obtaining copies of William Archer's herbarium specimens, letters and drawings held at Kew; Emilia Ward, librarian for the Royal Society of Tasmania; Sue Backhouse, Tasmanian Museum and Art Gallery; the staff of the Art School library; Allan Hansen who provided the resources of his library; and a special thanks to Brita Hansen, who gave invaluable advice and help with the proofing of this thesis.

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THE ILLUSTRATIONS AND WORK OF WILLIAM ARCHER

General Introduction

The history of illustration of Australian plants is a rich and fascinating story in which the exploits of early explorers, botanists, naturalists, gardeners and artists are closely associated with the discovery, exploration and development of the country itself. The artist's task was to preserve details of vibrant, living plants and flowers in a way that desiccated herbarium specimens never could. Their legacy to us is priceless; a rare synthesis of art, science and history which reminds us that detailed painstaking observation can result in work which is both utilitarian and strikingly beautiful.[1]

In 2004 the Tasmanian Museum and Art Gallery (TMAG) obtained a number of works by Tasmanian born artist William Archer (1820–74) under the Cultural Gifts Program.[2] The collection included thirty-three botanical drawings, twelve architectural and/or landscape sketches, a sketchbook, and various documents relating to Archer. The acquisition was a gift provided by the Lorimer family of Canberra; John Lorimer is the great-grandson of Archer's fifth son, Ernest Lindley Archer.

The thirty-three botanical drawings[3] were all of Tasmanian native orchids, and it is this set of illustrations that is the basis for the research contained in this thesis.[4] The

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1 H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999. Foreword by HRH Prince Charles.

2 Taxation Incentives for the Arts Program – The Cultural Gifts Program (the program) encourages gifts of significant cultural items to public art galleries, museums and libraries by offering donors a tax deduction for the market value of their gifts. Gifts made under the program are exempt from capital gains tax and the tax deduction may be spread over a period of up to five years. Department of Communications, Information Technology and the Arts, *Cultural Gifts Program*, viewed 12 December, 2006. <http://www.dcita.gov.au/arts_culture/tax_incentives/cultural_gifts.program>.

3 Tasmanian Museum and Art Gallery *Annual Report 2003–4*, p.35 [Report cites 35 botanical drawings, however only 33 exist].

drawings range from preliminary pencil sketches to exquisite life-size finished watercolour illustrations of Tasmania's orchids.

In this thesis, I will argue that these illustrations are the most significant set of drawings of their type in Tasmanian, if not Australian, botanical history. The set of drawings comprises a sizeable part of the works of the first Australian-born botanical illustrator, William Archer.[5] These illustrations comprise the only known botanical works by Archer still held in Australia. A number of the illustrations were used in Dr Joseph Dalton Hooker's *Flora Tasmaniae*,[6] which has been called 'historically one of the most valuable published on Australian flora'.[7]

I further argue that this set of illustrations and the botanical knowledge that went into being able to complete these drawings, as well as Archer's herbarium, places him as an important figure in Australian and international botanic history.

My own interest in botanical and scientific illustration began in my youth on seeing my mother's wonderful illustrations of the orchids and other flowers she grew, and the beautiful books on illustration and flowers she collected. My mother became fascinated by the exotic blooms she could now grow in her own garden after we moved to Australia from Denmark, and she eventually had an orchid house containing hundreds of different species. Her interest influenced all her three children, and although my mother loved the large exotic blooms, my brother developed a love for the often tiny native orchids near his homes in Townsville and then Cairns. My sister (who worked as a taxonomic illustrator for many years) and I also grew to love the tiny native orchids, and we would all often wander off on 'orchid spotting' bushwalks in the various places we lived along the east coast of Australia — Tasmania, New South Wales and Queensland.

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4 See Appendix 1 for a complete set of these illustrations.

5 "Archer seems to have the honour of being the first Australian born botanical illustrator." H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.112.

6 In various texts this publication is referred to as Flora *Tasmaniae, Florae Tasmaniae, Flora Tasmania* or *Flora Tasmanica*. I will refer to it as *Flora Tasmaniae*, as did Hooker, throughout the text.

7 H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.112.

After gaining a Bachelor of Fine Art with the University of Tasmania in 1989, I continued that interest in my studies and work, eventually gaining a post graduate diploma in Plant and Wildlife Illustration with the University of Newcastle in 1993, while working with NSW Agriculture illustrating and designing their distance education materials.

One of the challenges of this thesis has been writing an art history thesis on a topic that has a large scientific content. While this is an art history thesis, considerable research has been undertaken to ensure the botanical content is accurate. Dr Rozefelds and the staff of the Tasmanian Herbarium have assisted greatly in this.

Aims of the project

- Establish William Archer's place in the early botanical illustration history of Australia.
- Critically assess the standard of his illustrations, both botanically and aesthetically as compared with those of his contemporaries.
- Discover if William Archer had formal training in botanical illustration, if so, where and when.
- Date and determine locality where specimens were collected for the TMAG illustrations.
- Correctly identify specimens.
- Distribution – comparison of Archer's collection and present.
- Locate original illustrations from *Flora Tasmaniae.*
- Complete copy of all Archer's illustrations for TMAG.
- Archer's botanical work on *Flora Tasmaniae* be investigated.
- Archer's herbarium and his work as a collector of significance be recognised.

Literature Review

In researching this thesis I have covered material from the three sections; art, history and science mentioned in HRH Prince Charles' quote at the beginning of this Chapter.

There is little or no mention of Archer in most of the literature about Australian botanical illustrators; Helen Hewson in *Australia: 300 Years of Botanical Illustration*, writes of Archer's orchid illustrations in *Flora Tasmaniae*,[8] but there is no mention of Archer's work on the fungi illustrations in that publication, or any other that I have seen. Archer is rarely mentioned in any other works on illustrators, and at times his work on *Flora Tasmaniae* is incorrectly solely attributed to Walter Hood Fitch who lithographed the work, and did some minor additions to the illustrations.[9] Archer's contribution to collecting and identifying orchids has also been much neglected.[10]

Archer has to date not been well regarded as a specimen collector[11] — always overshadowed by R C Gunn, Robert Lawrence and others. There is no mention of Archer as a collector on the Tasmanian Herbarium website,[12] this mainly due to the standard of the examples of Archer's work there — his main herbarium being sent to England after his death and now forming part of the Kew collection.[13] I have found no reference to Archer's herbarium other than the one journal article by Brummitt et al.[14] In the early 1900s the herbarium specimens now held at the Tasmanian Herbarium were sent to New South Wales and were incorrectly labelled WH Archer (either after his

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8 H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.111–112.

9 L. De Bray, *The Art of Botanical Illustration*, 2001, p.141.

10 Two articles in *Australian Orchid Review* on the history of orchids contain no reference to Archer, although *Flora Tasmaniae* is mentioned. "Orchids and Tasmania's Adventures in Science" by Ronald Kerr: "Apart from a visit to Macquarie Harbour and Hobart by the botanist Allan Cunningham, and some work by WR Lawrence...very little botanising took place in Van Diemen's Land until the arrival of Ronald Campbell Gunn in 1829...Joseph Hooker ... accompanied Sir James Ross on his Antarctic expedition of 1839–43, as naturalist... from these experiences came a long series of books, including his Flora Tasmaniae issued in parts from 1855 to 1860. In the preface Joseph Hooker pays tribute to Gunn." (Vol 44, No 3, p155), and in "Some Aspects of Orchid History" by Ronald Kerr: " Another Australian to make a worthy contribution to botany ... was Tasmanian Ronald Campbell Gunn ... those sent by Gunn became the basis for his *Flora Tasmaniae*." (Vol 45, No2, p 84). Von Mueller is also mentioned in this article. J. Lewis in *Walter Hood Fitch: A Celebration* cites Fitch as the sole illustrator of Flora Tasmaniae.

11 Personal communication from A Buchanan.

12 Tasmanian Museum and Art Gallery 2005, viewed 12 July, 2006, *Tasmanian Herbarium; A Brief History*, <http://www.tmag.tas.gov.au/Herbarium/Herbarium3.htm>.

13 Brummitt, R, Mill, R, Farjon, A. "The significance of 'it' in the nomenclature of three Tasmanian conifers: *Microcachrys tetragona* and *Microstrobos niphilus* (*Podocarpaceae*), and *Diselma archeri* (*Cupessaceae*)", TAXON, May 2004, p530.

14 Brummitt, R, Mill, R, Farjon, A. "The significance of 'it' in the nomenclature of three Tasmanian conifers: *Microcachrys tetragona* and *Microstrobos niphilus* (*Podocarpaceae*), and *Diselma archeri* (*Cupessaceae*)", TAXON, May 2004, p529–539.

nephew[15] or more probably WH Archer,[16] an amateur naturalist from Victoria), and this incorrectly added H has been carried to many other references to Archer, including the Australian National Botanical Gardens website.[17] Letters by JD Hooker[18] and the Rev. William Spicer[19] held by the Royal Society of Tasmania attest to the value of Archer's herbarium.

Archer's diaries from 1847 till his death in 1874 have provided a wealth of information into his collaboration with JD Hooker on *Flora Tasmaniae*, and his work on the orchid illustrations, as well as his life. There are few letters by Archer still known to exist, but those that do have provided valuable information about his progress as a botanist and illustrator. The two letter journals[20] held by the Royal Society of Tasmania have been invaluable in showing at least an indication of his correspondence in the years they represent.

Historical records in the form of archival records, publications on letters by scientists such as Charles Darwin, JD Hooker, William Harvey and other material have also been used. Letters held at Kew containing correspondence from Archer to Sir William and JD Hooker, as well as to George Bentham, have provided valuable information regarding his life as a botanist and his yearning to return to this field of work.

Botanical works by A. Buchanan, D. Jones et al, W. Curtis and W. Nicholls have been used as reference for the nomenclature and descriptions of orchids. As the research on

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[15] William Henry Davies Archer (1836–1928) William Henry Davies Archer was born in Longford, Tasmania on 13 November 1836, the son of William Archer of Brickendon, William Archer's uncle. WHD Archer was a member of the Tasmanian Parliament, as was William Archer. WHD Archer was a member of the Tasmanian Royal Society in the early 1900s, around the time that the herbarium specimens were sent to New South Wales (Royal Society of Tasmania P&P 1902–1912).

[16] William Henry Archer (1825–1909) William Henry Archer was born in England on 14th November 1825. He arrived in Victoria at the end of 1852, and was an amateur naturalist. W H Archer was a corresponding member, address given as Melbourne, of the Tasmanian Royal Society for many years – many at the same time as William Archer (Royal Society of Tasmania P&P 1867–69).

[17] William H. Archer, Department of the Environment and Water Resources, Australian National Botanic Gardens 2006, source Hall, N (1978) *Botanists of the Eucalypts*, CSIRO, Melbourne, viewed 11 March, 2006, <http://www.anbg.gov.au/biography/archer-william-h.html>.

[18] RSA/E/12 – Private deposit, special & rare materials, UTAS library.

[19] RSA/H/12 – Private deposit, special & rare materials, UTAS library.

[20] A/7/1 – Private deposit, special & rare materials, UTAS library.

orchids is ongoing, I have for this thesis, used Buchanan's 2005 publication[21] as the cut-off point for nomenclature of the orchids.

Texts on Tasmania's early political history as a penal colony, the convict system, through to its gaining responsible government have been covered in regards to Archer's political life. Finally, Archer was also an architect of note in early Tasmania; therefore architectural publications have come into consideration.

[21] A. Buchanan (ed.), *A Census of the Vascular Plants of Tasmania, and index to The Student's Flora of Tasmania*, Fourth Edition, Tasmanian Herbarium Occasional Publication No 7, 2005, p.68–76.

CHAPTER 1 — HISTORY — WILLIAM ARCHER

Figure 1: William Archer.

In this chapter I discuss the life and times of William Archer (Fig. 1) and the influences upon his life. His first love was natural history. I will explain how his family obligations often prevailed, forcing him to attempt to make his living as a pastoralist raising sheep in colonial Tasmania, instead of following his heart and living in England working as a botanist.

In his diaries[22] Archer left a fascinating, detailed account of his experiences in England—the sometimes humorous description of the life and thoughts of a Victorian gentleman.

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[22] The original diaries are held at the Royal Society of Tasmania's library, and microfilm copies are held at the Morris Miller Library, University of Tasmania.

William Archer was born on 16 May, 1820 in Launceston, northern Tasmania,[23] the second son of Thomas (1790–1850) and Susannah (1801–1875, nee Hortle) Archer.[24]

Thomas Archer was the son of a wealthy landowner and miller in Hertfordshire, England.[25] He left England headed for the colony of New South Wales on board the transport ship *Guildford* at the age of 21 in 1811, carrying with him a letter of introduction to Governor Macquarie.[26] According to Rothwell; "after working for a couple of years in New South Wales, acquiring land and cattle, Thomas headed to the penal colony of Van Diemen's Land on board the *Emerald*, and in September 1813 he was given the post of Clerk in Charge of the Commissariat at Port Dalrymple in northern Tasmania."[27] In an era when the eldest son inherited all property, moving to the colonies was a means of accumulating land and independent wealth for the younger sons. Indeed, Thomas's younger brothers William, Joseph and later the eldest son Edward, were eventually to join him in Tasmania.[28] His father, also named William, joined them in 1827 after winding up his affairs in England.[29]

In 1814 he married Susannah Hortle.[30] Susannah was born in Sydney, the daughter of James Hortle, a private in the New South Wales Corps.[31]

Thomas Archer was granted eight hundred acres of land at Port Dalrymple on 1 January 1817,[32] in exchange of stock and land at Sydney. He named the property *Woolmers* after

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[23] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=806>.

[24] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=174286>.

[25] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=6436>.

[26] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney, unpublished dissertation, University of Sydney, 1971, p.2.

[27] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney, unpublished dissertation, University of Sydney, 1971, p.2.

[28] A. Alexander, (ed.) *The Companion to Tasmanian History*, Hobart, University of Tasmania, 2005, p.23.

[29] A. Alexander, (ed.) *The Companion to Tasmanian History*, Hobart, University of Tasmania, 2005, p.23.

[30] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=806>.

[31] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney, 1971, p.2.

the family holding in Hertfordshire, and by 1821, he had increased his holdings to over 2000 acres; by 1825 to over 6000 acres. Susan Rothwell writes in her 1971 paper on Archer, a description of Woolmers[33] that gives an indication of the vast enterprise it had become: "... employing 50 men (including 40 convicts in 1825) and household staff. Woolmers was like a small village with the employees housed in a street of cottages in addition to the gardener's cottage, the coachman's cottage, the engineer's cottage and the punt operator's cottage (before the bridge was built) ... the household staff were housed upstairs in the house itself plus a few of the nearby cottages". With his brothers William, Joseph and Edward, and his father, the Archer family holdings consisted of several properties of considerable acreage; Thomas – *Woolmers* and *Fairfield*, William – *Brickendon* and *Mundan*, Joseph – *Panshanger*, *Burlington* and *Woodside*, Edward – *Leverington*, and their father William – *Roxford* and *Altamont*.[34]

William Archer was the second son, born on 16 May 1820;[35] he was baptised on 15 August of that year at St John's Church, Launceston.[36] Archer's older brother Thomas (1819–44)[37]—died young, leaving a child Thomas, who was eventually to take over *Woolmers*.

Education

Archer was educated privately at home for some time, as was often the case in early Tasmania—Archer later oversaw much of the education of his own children, having

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[32] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 27 April, 2006, <http://portal.archives.tas.gov.au/A3567/1/3060>.

[33] Woolmers Today: Woolmers was continuously occupied by the Thomas Archer family from circa 1817 to 1994 and is acknowledged as one of the most outstanding examples of 19th century rural settlements in Australia. In addition to the architectural heritage, the site contains a wide range of collections acquired by the family over 180 years, providing a rare insight into six generations of one family. The combination of the historical collections, the buildings and the site itself represents a significant cultural resource and an important visitor attraction. The site is open to visitors daily and consists of conducted tours of the main house, self-guided tours of the out buildings, gardens and National Rose Garden of Australia. Woolmers Estate 2006, *History*, viewed 26 April, 2006, <http://www.woolmers.com.au/history.html>.

[34] A. Alexander, (ed.), *The Companion to Tasmanian History*, 2005, p.23.

[35] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=806>.

[36] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=806>.

[37] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=806>.

school books sent from England by Mrs Hooker, wife of JD Hooker[38]—and he then went on to school in Campbelltown (John Mackersey's school at *Gaddesden*) and possibly also at Longford.[39]

In her book *Clerk of the House–The Reminiscences of Hugh Munro Hull 1818–1882,* Lucille V Andel includes extracts from Hull's diary containing the mention of a William Archer as one of his schoolfellows at James Thomas's Hobart Town Academy & Boarding School in Melville Street, Hobart. James Thomas opened the Hobart Town Academy & Boarding School in February 1823, offering the subjects of Greek, Latin, French, Maths, Geography, History & English Grammar. From Hull's recollections of his time there, it was not a very happy experience. Hull started there as a boarder in 1824, making him the right age to possibly school with Archer.[40]

> Many of my then schoolfellows have risen to learned professions or the political arena since then. Sir Richard Dry MLC, Sir Francis Smith Puisne Judge, The Reverend William Dry, The Honorable William Archer MLC.[41]

Hull also writes of his acting for William Archer as Secretary for the Royal Society for a month in March 1861.

> Ist March 1861. Mr William Archer, the Secretary of the Royal Society, who has £300 a year salary, asked me to act for him for a month whilst he was absent, and he would write "paid" opposite my name in the Society's Books. I agreed to the arrangement.[42]

At the age of sixteen, Archer journeyed to England for the first time to study architecture with Mr Rogers of *Southern Lodge* North Brixton.[43] He stayed there for four years from 1836–40. He later wrote of revisiting the family when he returned to England;

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[38] Archer diary 22/12/1862. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[39] B. Lennard, "William Archer (1820–1874)", THRA Papers & Proceedings, vol 27 No 3 Sept 1980, p.103.
[40] L. Andel, *Clerk of the House*, 1984, p.5.
[41] L. Andel, *Clerk of the House*, 1984, p.45.
[42] L. Andel, *Clerk of the House*, 1984, p.45.
[43] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney 1971, p.6.

> On the 13th [June 1858] I took AA [his wife Anne Archer] to see Mr Rogers' residence, Southern Lodge, North Brixton, where I spent 4 years, at the most impressionable period of life – from 16 to 20, then, after a chat with Mr R. took a stroll round the garden & grounds, which are much enlarged since I was there.[44]

According to Lennard, after completing his architectural studies Archer moved to the north of England to further his education. He then studied engineering with the famous Robert Stephenson in Newcastle upon Tyne for two years from 1840–1842.[45] He revisited the place in his later travels, this time in September 1858 while on holidays with Jas Youl, a fellow Tasmanian;

> 9th Youl & I started by the morning express train for Yorkshire.
> 10th Stephenson's factory: Could not find my old lodgings on Chestgate Hill. Called on Mrs Nevine. Blenheim St. Her daughter married & living at Durham.[46]

One can only imagine the enormous influence this experience of life in London and the industrial north must have had on a receptive mind.

Archer left England on 8 June 1842, on board the *Aden* and arrived in Melbourne 30 September. He finally returned to Tasmania two weeks later in mid October 1842.[47] He then spent the next five years at *Woolmers* where, as now the eldest son, he had to take over an increasing responsibility for the management of the estate.[48]

On 7 April 1846, Archer married his first cousin, Anne Hortle (1822–1899).[49] Ann [AA] was the only daughter of Archer's uncle, James Hortle. They were to have 13 children, six sons and seven daughters:[50] Lucy 1848–1932, Lilias (Lily) 1849–c1883, Alice 1852–1883, William Lyttleton (Willy) 1854–1928, Walter Kermode (Watty)

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44 Archer diary 13/6/1858. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
45 B. Lennard, "William Archer (1820–1874)", THRA Papers & Proceedings, vol 27 No 3 Sept 1980, p.103.
46 Archer diary 9/9/1858. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
47 Brendan Lennard, "William Archer (1820–1874)", THRA Papers & Proceedings, vol 27 No 3 Sept 1980, p.103.
48 Archer diaries, 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
49 Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=1&type=P&id=806>.
50 Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=1&type=P&id=806>.

1856–1930, Kate 1858 (date of death not known), Jessie 1859–1860 (born in England), Francis Hooker 1860–1924 – named after Joseph Hooker. Francis was born in England just before the family returned to Tasmania.[51] Edith Annie 1862 (date of death not known), Herbert Davies 1863–1923, Rose 1864 (date of death not known), Ernest Lindley 1865–1939 – named after the botanist John Lindley.[52] Ernest was the great-grandfather of Peter Lorimer who later inherited the selection of Archer's orchid drawings contained in this thesis, now part of the Tasmanian Museum and Art Gallery collection, Herbert Stackhouse 1870–1892.

In 1848 the family moved to *Cheshunt,* near Deloraine, a property he was given by his father,[53] where Archer drew the plans for the house on the property.[54] Whether this move was altogether to his liking seems doubtful from his diary entry on 3 January 1848:

> It seems decided that I shall live at Cheshunt. JA Jr went to Launceston this anoon to try & hire Mr J Stromarck for 2 or 3 months; till I can arrange to go there.

And on the following day he writes:

> After much conversation and perplexity it was decided all parties agreeing, that I should go to Cheshunt. JA Jr come here (to Woolmers) and Mr Rostie remain.

Architectural Work

Although a qualified architect, Archer found little opportunity for paid work in his profession on his return to Tasmania.

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[51] In a letter dated 23 April 1861, Archer writes to Hooker: "...my wife has added another to my family party, and we have named him Hooker, in remembrance of the pleasant intercourses which we enjoyed with your family. Sir W. a godfather. Francis Hooker." DC 218, 32–33.

[52] January 21 1866 from Archer's diary, "He also baptised the baby in the names of Ernest Lindley. The latter name in remembrance of our friend, the celebrated, Dr Lindley." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[53] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney, 1971, p.10.

[54] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

Soon after his arrival, he worked on the design of the East window in Christ Church Longford.[55] This was the first of what was to become some of his most regular work; for the church. Other work completed for the church includes the Wesleyan Church (Paterson Plains Chapel) St Leonards.[56] While Archer was appointed the architect for the Diocese of Tasmania in May 1849,[57] there is no record of his having received payment for any of the commissions that arose from the position.[58]

He went on to design the Hutchins School in Macquarie Street, Hobart (Fig. 2).

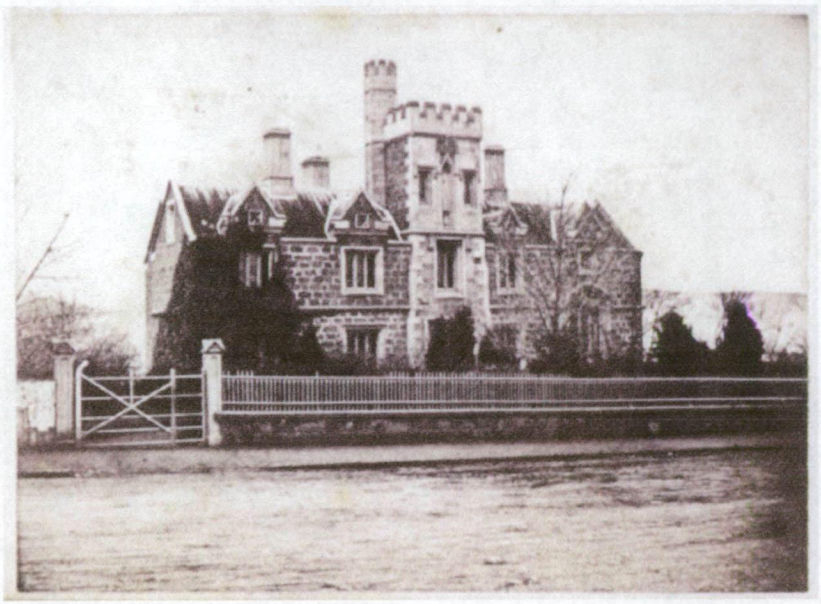

Figure 2: Hutchins School circa 1860.

Archer also designed houses on the properties held by members of his family: Cheshunt, (1846-47), Fairfield (1852), and Woolside.[59] Archer also designed the house at

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[55] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney, 1971, p.6.

[56] *The Heritage of Tasmania*, Macmillan Co of Australia, association with the Australian Heritage Commission, 1983, p147.

[57] Hobart Town Crier, 5/5/1849, p.2.c.3.

[58] S. Rothwell, The Biography of William Archer (1820–74): The First Australian Born Architect, unpublished dissertation, University of Sydney, 1971, p.7.

[59] *The Heritage of Tasmania*, Macmillan Co of Australia, association with the Australian Heritage Commission, 1983, p.132.

Panshanger (3 km east of Cressy),[60] and part of the Woolmers[61] homestead, as well as Sainbridge House and Chapel (built in the 1850s).[62] Perhaps the most famous of Archer's designs is that of Mona Vale (1865–9) (Fig. 3), built for Robert Quayle Kermode. Kermode was married to Archer's sister who died in childbirth in 1853.[63] Archer maintained his friendship with Kermode throughout their lives, eventually taking over the organisation of Kermode's affairs after his death.[64]

Figure 3: Mona Vale.

The design of Mona Vale occupied Archer over a long period. He makes numerous references in his diaries to designing and working on the plans and details of the fittings.[65]

The architectural style of Archer's works are varied and have several influences including; Gothic Revival, Georgian, Italianate and Classical Revival.

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60 *The Heritage of Tasmania*, Macmillan Co of Australia, association with the Australian Heritage Commission, 1983, p.132.

61 *The Heritage of Tasmania,* Macmillan Co of Australia, association with the Australian Heritage Commission, 1983, p.132.

62 *The Heritage of Tasmania*, Macmillan Co of Australia, association with the Australian Heritage Commission, 1983, p.138. Although this is credited to Archer, he had no son called Robert.

63 Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=I&type=P&id=806>.

64 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

65 Archer's diary from 1865 till 1869 contain many references to work on the Mona Vale designs eg: 20/1/1865: "Working on Mona Vale plans.", 21/5/1866: " Mona Vale drawings", etc. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

Later in his life Archer moved to Melbourne in an attempt to establish a career as an architect. In May 1871, at the age of 51, Archer opened an office in 76 Collins Street West in the hope of gaining clients for his architectural practice.[66] He lacked the entrepreneurial skills needed to promote himself effectively, and the business closed within six months, having had no paid commissions.[67] He returned to the property Fairfield in Tasmania soon after.[68] He continued to live there until his death.

Politics

Archer lived in a turbulent era of Tasmanian and Australian political history, a time when the colonies were beginning to assert some independence from their faraway British rulers. Most of the Australian colonies had been settled as penal colonies, but with the increasing number of free settlers now living there, a movement for freely elected government – representation – was stirring.

In 1851, Archer stood as a candidate for the first elected Legislative Council of Tasmania, for the Division of Westbury.[69] He was elected on an Anti-transportation platform.[70] He was an elected representative on three occasions;

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[66] Archer diary May 1871. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[67] On 25/3/1872 Archer wrote to Hooker: "All my plans of professional work–architecture–have been long since abandoned; for I found that Melbourne was overdone with architects, and learned from the Chief Commissioner of Public Works, who had brought up his son as an architect, that he intended to talk him out of the profession...after this I thought it were [a] waste of time & money to go on." DC 172, 216. Interestingly, Archer later in the same letter writes: "Now I have no employment so that I am quite free to accept the Assistant Directorship of Kew Gardens, if there is such a post requiring to be filled up." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[68] Archer diary, 12/1/1872. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[69] Tasmanian Parliament Library – list of past representatives.

[70] "Anti-transportation 1838...end of 'assignment' of convicts...labour became costlier for employers, at a time of economic stagnation, convicts arrived in larger numbers than ever before, and critics saw the camps as breeding criminality and (especially homosexual) vice. Simultaneously the imperial government wanted colonial revenues to contribute more in convict's upkeep. Whereas in 1842–43 NSW, whither transportation had stopped, received a largely elected Legislative Council, the counterpart in penal Van Diemen's Land remained wholly government-nominated...Systematic criticism developed from 1844. Anti-transportation became a socio-political movement of vehement strength, in its scale comparable to the anti-corn law in contemporary Britain, or even the American abolitionist movement." Alison Alexander (ed.), *The Companion to Tasmanian History*, 2005, p.19–20.

- Legislative Council Westbury 1 December 1851 to 1855 – resigned when he left to go to England.
- House of Assembly Devon, 28 April 1860 to May 1862.
- House of Assembly Deloraine, 5 October 1866 to April 1868.[71]

By 1850 the Tasmanian Anti-transportation movement had developed into a crusade for 'social freedom', the phrase of prominent Launceston anti-transportationist, the Reverend John West. The crusade quality of this movement found expression at mass meetings in Van Diemen's Land and Victoria. It also produced a Federation Flag very similar to the present Australian ensign.[72] The anti-transportationists favoured the change of name to Tasmania from of that of Van Diemen's Land as a reaction against the stigma attached to having been a penal colony.

Tasmania 1860–1874

While living in Melbourne, he started writing a novel called *Sons of Providence*.[73]

Archer moved back to Woolmers in 1861, and returned to managing the property. Archer often writes of his financial problems[74] and the need to sell Woolmers. There also seem to have been problems with the title deeds to the properties and his inheritance of the property on his father's death. He put the property on the market on several occasions.

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[71] Tasmanian Parliament Library – list of past representatives.

[72] National Archives of Australia, *Australia Constitutions Act 1850 (UK)*, viewed 26 April, 2006, <http://www.foundingdocs.gov.au/item.asp?sdID=33>.

[73] Archer's diary of March 1872: Writing my story *Sons of Providence*. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[74] In a letter to J Hooker on 25th March 1872, Archer writes: "Things are going very hard with landholders here just now, small prices for our fat sheep & cattle, as well as for our grain, & heavy rates & taxes". DC 172, 216.
In a letter to Hooker dated 12 July 1872, Archer writes: "It is not altogether improbable, though not certain, that Cheshunt will pass out of my hands next Summer..." DC 172, 218.

After his return from England, Archer moved to Hobart in early 1860. He became involved in the importing of salmon ova from England in the hope of establishing salmon in Tasmania.[75] The venture failed after several attempts when all the ova died en route,[76] due to the melting of the cooling ice. Brown trout were eventually successfully hatched in 1864, at the 'Salmon Ponds' at Plenty, although by this time Archer was no longer involved with the enterprise. Another unsuccessful enterprise Archer started was the sale of native Tasmanian pines to Melbourne.[77]

William Archer died on 15 October 1874[78] at the age of 54, after a long, debilitating illness, most likely tuberculosis,[79] at his home at Fairfield, Cressy, in northern Tasmania. He was buried in the Christ Church Cemetery in Longford, Tasmania.[80] He had led a short but eventful and influential life.

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[75] On August 30, 1859 Archer wrote: "Youl came & I walked with him across the Park, chatting about salmon for Tasmania & Tasmanian Officials." Archer continued his involvement while Secretary of the Tasmanian Royal Society. Diary note on 9 May 1860; "Salmon ova from England." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[76] S. Rothwell, The Biography of William Archer (1820–74), The First Australian Born Architect, unpublished dissertation, University of Sydney, 1971, p.20.

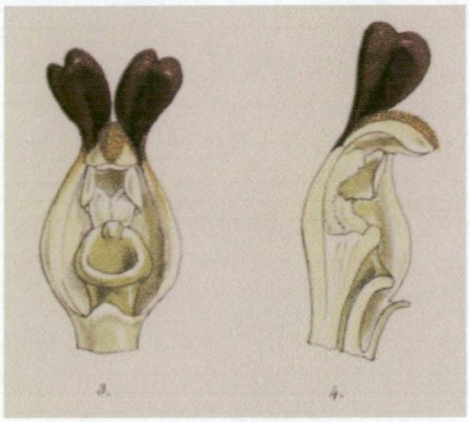
[77] Archer writes on several occasions of sending pines to Melbourne on his return from England. On 23 May 1866, he writes: "Packed the pines in a box for Handersyde McMillan & Co of Melbourne, counting 42 of Athrotaxis selaginoides, 6 of A. laxifolia, & 187 of A. cupressoides, total 235." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[78] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, http://portal.archives.tas.gov.au/menu.aspx?detail=1&type=P&id=806.

[79] P. Edwards, *Of Yesteryear and Nowadays*, 1994, p.58.

[80] Colonial Tasmanian Family Links Database, Archives Office of Tasmania 2006, viewed 29 June, 2006, <http://portal.archives.tas.gov.au/menu.aspx?detail=1&type=P&id=806>.

CHAPTER 2 – SCIENCE – BOTANY



Early Botanical Collecting in Tasmania

The 17th, 18th and 19th centuries were a time of intense activity in the southern seas – the Dutch, French, English and Americans were all to send several political and scientific expeditions to Tasmania during that period.

The Dutch were seeking new trade routes for their spices from the East Indies were the first to come to Tasmania. In 1642, Able Janszoon Tasman (1603–1659) was commissioned by the Dutch East India Company to make an exploratory voyage to the unknown southern seas. Tasman set out from Batavia in Indonesia with two ships; the *Heemskerk* and *Zeehan* in early 1642. In November of that year he reached land and named it Van Diemen's Land in honour of Anthony van Diemen, the Governor General of the Dutch East Indies[81] (in 1855 Van Diemen's Land was renamed Tasmania). There are few records existing relating to the natural history of Van Diemen's Land from this voyage.

The French also had an interest in the southern lands, both political and scientific, and sent two expeditions to the region of Van Diemen's Land. The first of these French expeditions to reach Van Diemen's Land was led by ARJ de Bruni Chevalier d'Entrecastreaux (1740–1793). d'Entrecastreaux reached Van Diemen's Land in April 1792, and spent approximately a month on the eastern coast of the island in the vicinity of Recherche Bay[82] and Bruny Island. He sailed with two ships; the *Recherche* and the *Esperance* (commanded by JM Huon de Kermandec). The expedition included amongst its company several scientists and artists; the naturalists Jacques Julien Houtou de Labillardière (1755–1834), Louis

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[81] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.16.

[82] Recently there has been controversy over proposed logging in this area. Conservationists eventually purchasing the land in their efforts to preserve an area so significant in Tasmania's history.

Ventenat, Louis-Auguste Deschamps and Claude-Antoine-Gaspard Riche and the artist Nicholas Piron. The botanical collections Labillardière made while in this area of Van Diemen's Land are historically of great significance.[83] The first specimen of Tasmania's floral emblem, the Tasmanian Blue Gum (*Eucalyptus globulus*) was collected on this expedition (Fig. 4).

The beginning of the 19th Century saw expeditions from both England and France to Van Diemen's Land. In 1800 Nicolas Baudin (1754–1803) was sent to establish a French presence in the region. Baudin sailed in the *Geographe* accompanied by the *Naturaliste* under the command of Emmanuel Hamlin. The crews included Jean Baptiste Leschenault de la Tour, Andre Michaux and Jacques Delisse as botanists and Charles Alexander Lesueur, Nicholas Martin Petit, Jacques Milbert, Louis Lebrun and Michel Garnur as painters and draftsmen. The scientific team also had five zoologists; including Francois Peron and Louis de Freycinet. It appears to have been more of a natural history exploration than a political mission. Baudin arrived in Van Diemen's Land in January 1802.[84] The expedition was fraught with disaster and although no botanist survived the journey, the botanical collections, especially the live plants, were significant.[85] There are references to more than 60 different plants in the journals of Baudin, Leschenault and Peron, however many of the references give only general or European names to the plants. Among specimens given scientific names collected by Leschenault, were *Billardiera longifolia, Casuarina stricta* (although he refers to it as *Casuarina equisetifolia*), *Rubus parvifolius, Spinifex hirsutus* and *Discaria australis.*[86]

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[83] Hooker notes in *Flora Tasmaniae*: "Considerable collections were made by MJJ Labillardière, who published figures and descriptions of 265 of the most interesting..." J. Hooker, *Flora Tasmaniae*, 1843–60, p.cxviii.

[84] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p63.

[85] Hooker writes of Baudin's expedition: "In 1800, the Expedition of Captain Baudin, in the Geographie, Naturaliste and Casuarina left France on a voyage of discovery and survey along the shores of Australia...Some general remarks on the botany of Australia and Tasmania are given by M. Leschenault in the second volume of the Narrative of the Expedition (4to, Paris, 1816); and many of the plants figured in the fine work of M Ventenat, Jardin Malmaison, were introduced to Europe by the officers of this voyage." J. Hooker, *Flora Tasmaniae*, 1843–60, p.cxviii.

[86] B. Plomley, *The Baudin Expedition and the Tasmanian Aborigines 1802*, 1983, p.224–227.

Figure 4: Eucalyptus globulus Labill.

In 1776 Captain James Cook made a third voyage to the Pacific (*Resolution* and *Discovery*). Hewson writes of this voyage;

> The *Discovery* had on board a surgeon-naturalist, William Anderson, and a natural history draftsman, William Ellis. On the way to the Pacific *Discovery* anchored for four days in Adventure Bay, Van Diemen's Land, late in January 1777. The natural history legacy from this stopover does not seem to have been particularly significant, with one notable exception. William Anderson, together with a mid-shipman, David Nelson, made a collection of *Eucalyptus obliqua* (Fig. 5) which was later to become the type specimen Eucalyptus.[87]

In 1803, the Scottish botanist Robert Brown (1773–1858), joined Lieutenant-Colonel William Paterson (also an avid botanical collector who sent specimens to Robert Brown and Sir Joseph Banks) on board the *Lady Nelson* to establish a second British colony in Van Diemen's Land, on the Tamar River. Brown stayed in Van Diemen's Land for nine months collecting botanical specimens. He collected over 4000 plants while in Australia

[87] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.30.

(with Matthew Flinders and Ferdinand Bauer on the *Investigator)*.[88] He would publish *Prodromus Flora Novae Hollandiae et Insulae van Diemen* in 1810, which Archer used as a reference, using some of the specimens gathered at this time.[89]

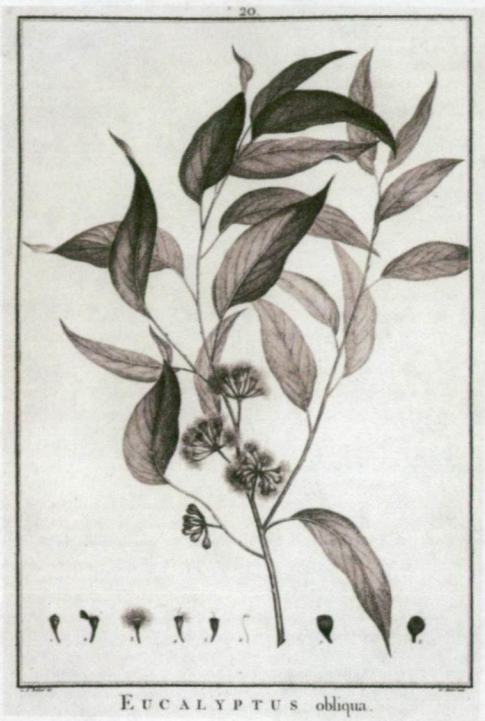

Figure 5: Eucalyptus obliqua L'Her.

In 1854 Dr W Harvey from Dublin came to collect algae specimens.[90] He spent some time with Archer and Gunn (1808–1881)[91] on that trip. Harvey wrote fondly of his stay

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88 Jenkins notes about Brown in *The Naturalists: Pioneers of Natural History*: "In 1810 he was appointed naturalist to the expedition under Matthew Flinders commissioned to survey the coasts of Australia. He returned in 1805 with some 4000 plants, many new to Britain." A. Jenkins, *The Naturalists: Pioneers of Natural History*, 1978, p.51–52.

89 "In London, Brown prepared and published volume 1 of his *Prodromus Florae Novae Hollandiae et Insulae van-Diemen* in 1810. This was illustrated with paintings by Ferdinand Bauer in a complementary work." H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.45.

90 J. Hooker, *Flora Tasmaniae*, 1843–60, p.cxv.

91 Ronald Campbell Gunn came to Hobart in 1830, as a Superintendent of Convicts and was transferred to Launceston in 1833. There he befriended Robert Lawrence and developed an interest in botany and collecting plants. This led to Gunn being transferred to Hobart where he became an authority on natural history and met all the scientists visiting the settlement. From a botanical point of view, Joseph Hooker was probably the most important of such visitors.

with Archer and their botanising expeditions together in his letters to the Hookers and to his relatives.[92]

Probably the earliest serious plant collector living in Van Diemen's Land was the settler Robert William Lawrence (1807–1833), who lived on the property *Formosa* near Cressy in northern Tasmania, and collected in the northern regions of the island from 1826 till 1832.[93] The Lawrence's property was adjacent to the Archer properties and it is possible that Robert Lawrence played a role in Archer's interest in botany and natural science. Lawrence died at quite an early age, before he could fully establish his interest in botany.

Lawrence was to influence Gunn to become an avid collector, and introduced him to Sir William Hooker.[94].Other collectors operating in Tasmania about the same time included Joseph Milligan, James Backhouse and Johann Lhotsky.[95]

The new colony of Van Diemen's Land also saw a number of distinguished scientists visit the island between 1835 and 1851, including; Charles Darwin on board the *Beagle* who visited in February 1836 mainly looking at the geology around the Hobart area[96], Count Paul E de Strzelecki on a geological expedition from December 1841 till September 1842[97], Thomas Henry Huxley as Assistant Surgeon on board the navy frigate HMS *Rattlesnake* assigned to chart the seas around Australia in 1847, and John Gould, zoologist landed in Hobart in 1838,[98] (Gould's son Charles later visited Hobart in 1859–60 on a geological survey of Tasmania. While in Hobart he met William Archer.)[99]

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92 S. Ducker (ed.), *The Contented Botanist: Letters of WH Harvey about Australia and the Pacific*, 1988.
93 J. Hooker, *Flora Tasmaniae*, 1843–60, p.cxxv.
94 H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.108.
95 H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.111.
96 F. Nicholas and J. Nicholas, *Charles Darwin in Australia*, 1989, p. 94–126.
97 *Strzelecki. Sir Paul Edmund de,* Australian Dictionary of Biography, Online Edition, Australian National University 2006, viewed 11 March, 2006, <http://www.adb.online.anu.edu.au/biogs/A020457b.htm>.
98 B. Smith, *European Vision and the South Pacific*, 1960, p.207.
99 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

The 1840s and 1850s saw a continued interest in botanical collecting by Tasmanians, now including William Archer, his cousin Charles Hortle and Augustus Oldfield.[100]

The Tasmanian collectors were sending the specimens they found to England. To Sir William Hooker when he was in Glasgow, and then to him, his son JD Hooker, or to John Lindley, after he transferred to Kew Gardens.

The Importance of Kew and the Hookers

In 1840, the Kew Gardens became The Royal Botanic Gardens, Kew, and in 1841, Sir William Jackson Hooker, then Regis Professor of Botany at the University of Glasgow, was appointed to be Director. It was the beginning of a new and more scientifically-oriented era.[101]

While still at Glasgow, Sir William had established a network of collectors who forwarded botanical specimens. He continued this tradition when he was appointed to Kew, and in this way he was eventually able to establish one of the greatest herbaria of all time. Sir William realised that although Banks, Solander, Forster, Brown, Cunningham, Darwin, Dr J D Hooker and Huxley all made collecting voyages in the Australian region in the years between 1770 and 1850, what was needed was a team of resident collectors who had a working knowledge of botany who could continue to send their collected specimens to Kew

Dr Joseph Dalton Hooker joined the James Clark Ross expedition in the *Erebus* and *Terror* to the Antarctic in 1839. JD Hooker was appointed Assistant Surgeon and Naturalist. He spent a total of six months in Tasmania, three in the spring of 1840 and three in the autumn of 1841.[102] During that time he was able to accompany Ronald Gunn, or a guide provided by Gunn, into a range of localities and habitats. JD Hooker wrote of this; "I can recall no happier weeks of my wanderings over the globe, than those spent with Mr Gunn, collecting in the Tasmanian mountains and forests, or

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[100] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.111.
[101] M. Bingham, *The Making of Kew*, 1975, p.13.
[102] J. Hooker, *Flora Tasmaniae*, 1843–60, Introduction.

studying our plants in his library, with the works of our predecessors Labillardière and Brown."[103]

William Archer's Botanical Work

Archer not only sent botanical specimens to Kew, but he also began to send botanical illustrations of some of the new plants he was discovering. It is my belief that Archer considered himself to be a botanist – albeit an amateur one – undertaking empirical research, not merely a collector of specimens, and it was for this reason he illustrated his research as he did.

In the early nineteenth century there was no degree in botany as such – botany was considered to be merely a part of other university study.[104] JD Hooker, for example, studied medicine,[105] where he gained some of his botanical knowledge, as did Darwin (although the latter also studied botany as a part of his learning towards the priesthood).[106] Like Archer, many of the famous botanists of that era were also men of private means; Banks[107] and Darwin[108] were examples of wealthy land and stockholders who chose to devote their lives to science; others included clerics who were able to fulfil their interest in botany while being supported by the church.[109] Endersby writes in his work on JD Hooker; "Although Hooker's father had excellent contacts in the natural history world, he did not (unlike Darwin's father) have a fortune to bequeath his son. As he noted in a letter to his father, 'I am not independent, and must not be too proud; if I cannot be a naturalist with a fortune, I must not be too vain to take honourable

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[103] J. Hooker, *Flora Tasmaniae*, 1843–60, Introduction.

[104] Huxley writes of this in his book on JD Hooker: "Another claim upon the professor's [Sir William Hooker at Glasgow University] energies was due to the fact that the botanical class was in a great measure ancillary to that of Materia medica, a practical knowledge of which latter subject was at that time required of candidates for a medical degree, diploma, or license by, I believe, all the examining bodies in the United Kingdom." L. Huxley, *Life and Letters of Sir Joseph Dalton Hooker*, 1918, from *Life & Letters*, JDHooker Website 2006, viewed 26 April, 2006, <http://www.jdhooker.org.uk/L&L_contents.htm>.

[105] L. Huxley, *Life and Letters of Sir Joseph Dalton Hooker*, 1918, Preliminaries.

[106] A. Jenkins, *The Naturalists: Pioneers of Natural History*, 1978, p.13.

[107] B. Smith, *Imaging the Pacific*, 1992, p.42, and Endersby, J. From having no herbarium. Local knowledge versus metropolitan expertise: Joseph Hooker's Australasian correspondence with William Colenso and Ronald Gunn, Pacific Science (2001) University of Hawaii, p344.

[108] A. Jenkins, *The Naturalists: Pioneers of Natural History*, 1978, p.141.

[109] For example, Backhouse, Spicer and others, and as noted above, botany was a part of the study carried out toward the ministry.

compensation for my trouble.' For [JD] Hooker, publishing the *Botany of the Antarctic Voyage* was a way of earning 'honourable compensation."[110]

The mid to late nineteenth century saw a growing trend toward professionalism in the sciences, including botany. Smocovitis writes in *One hundred years of American botany*: "The society [Botanical Society of America] evolved largely through the efforts of late 19th century American botanists mostly living in the northeast. Their goal was to professionalise the study of plants. Spurred by developments in instrumentation such as microscopy and methodologies such as sectioning and staining, the study of botany moved from more accessible fieldwork into a technical laboratory setting, rendering it the domain of an elite set of researchers whose goals included experimental rigor combined with technical know-how."[111]

While the larger cities of Britain, Europe and the United States, had Universities to provide the more and more specialised studies needed for this growing trend towards employment in the sciences, where the likes of JD Hooker could eventually gain work as professional botanists, the smaller cities and new areas of European settlement were to rely on the research of members of Societies and Institutes till the end of the century.

In 1837 Sir John Franklin, became Lieutenant Governor of the Colony, and with the help of his wife Lady Jane Franklin, established the Tasmanian Natural History Society in Lenah Valley.[112] The Society provided the nucleus for the Royal Society of Tasmania founded by Sir John Eardly-Wilmot. That it was the first Royal Society to be established outside the British Isles is an indication of the enthusiasm of the local botanical collectors and naturalists,[113] and emulate the academic standards of London.

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[110] J. Endersby, *From having no herbarium. Local knowledge versus metropolitan expertise: Joseph Hooker's Australasian correspondence with William Colenso and Ronald Gunn*, Pacific Science (2001) University of Hawaii, p.344.

[111] V. Smocovitis: "One hundred years of American botany: a short history of the Botanical Society of America", American Journal of Botany. 2006;93:942-952.

[112] B. Smith, *European Vision and the South Pacific*, 1960, p.205.

[113] B. Smith, *European Vision and the South Pacific*, 1960, p.207. The Tasmanian Royal Society was the first Royal Society formed outside of the British Isle. It is not a branch of the Royal Society.

It would take many years before study in the sciences would become available to the likes of Archer in the colonies of Australia. Greenwood writes that in 1825 only 443 children out of 2444 in the Colony were receiving any kind of teaching, either in public or private schools or in private families.[114] The first University to be established in Australia was the University of Sydney in 1851, while the University of Tasmania, the fourth in Australia, was not founded until 1890.[115] It was not until 1896, some 22 years after Archer's death, that Leonard Rodway was appointed as the first honorary botanist for Tasmania.[116]

Of the forming of what was to become the Botanical Society of America in 1883, Smocovitis notes: "In the wider context of an emerging national identity too, American botanists also saw themselves as matching the know-how and expertise of their European counterparts, especially in Germany and Britain, who they felt had dominated botany for too long. Gaining some measure of independence from them increasingly became a major goal for the same growing elite."[117] and the Australian colonies were also wanting to assert their own independence.

Archer and his involvement with the Royal Society of Tasmania

Archer became an early member of Royal Society of Van Diemen's Land on 2 June 1847,[118] and became a Fellow of that Society in February 1849.[119]

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[114] G. Greenwood (ed.), *Australia: A Social and Political History*, 1972, p.40.

[115] *Australian Universities; a History*, Australian Education Network 2007, viewed 15 October 2007, <http://www.australian-universities.com/history-of-australian-universities.php>.

[116] Rodway, Leonard R. (1853–1936) Born in Torquay, England, on 5 October 1853, died in Kingston, Tasmania, on 9 March 1936. Arrived in Tasmania (via Queensland) in 1880 and practiced as a dentist. Appointed Honorary Dental Surgeon at Hobart General Hospital (1890/1922). Appointed Honorary Government Botanist in 1896, and held the position until 1932. In 1928 he was appointed Honorary Curator of the Tasmanian Museum Herbarium, until his resignation in 1932. He was lecturer in botany at the University of Tasmania (1923–1929) and a trustee of the Tasmanian Museum and Botanic Gardens (1911–1923). For 30 years he was the premier authority on the Tasmanian flora. Rodway published extensively on the Tasmanian flora, with his major work being The Tasmanian Flora (1903). He also published a series of major monographs in the Papers & Proceedings of the Royal Society of Tasmania on bryophytes (1912–1916) and numerous papers on fungi (1897–1930). Leonard Rodway, extracted from AE Orchard (1999) "A History of Systematic Botany in Australia", in *Flora of Australia* Vol 1, 2nd ed., ABRS, Department of the Environment and Water Resources, Australian National Botanic Gardens 2007, viewed 15 October 2007, <http://.anbg.gov.au/biography/rodway-leonard.html>.

[117] V. Smocovitis: "One hundred years of American botany: a short history of the Botanical Society of America", *American Journal of Botany*. 2006;93:942-952.

[118] The Tasmanian Journal of Natural Science Vol II, 1846, p.243.

After his return to Tasmania from England in 1860, Archer succeeded Dr Milligan as Secretary of the Royal Society, and held that office for two years.[120] He presented several papers to the Society after his return, including *Observations upon the Plants which are Characteristic of Agricultural, Pasturable, and Bad Lands Respectively in Tasmania* (1864), *Notes on an Excursion to Cummings Head and the Falls of the Meander, on the Western Mountains, Tasmania* (1870), *Notes on the Californian Thistle* (1870).[121] His diaries of this era make many references to his writing, and of his work in preparing the Annual Report of the Royal Society.[122]

Archer's Early Work in Tasmania 1847–1856

The first entry in Archer's private 1848 diary reads: "Jan 1st. If I can manage it, I will collect & write a description of the grasses indigenous to Tasmania. I have already a dozen genera." This entry gives an indication of his great interest in botany, and of the methodical and systematic approach he had as he went about establishing his herbarium of which I will write further later in this chapter. In his early diaries Archer writes of his collecting expeditions to the Mersey and Meander Rivers, and the mountainous Quamby Bluff and Cummings Head, where he added to his herbarium with the many plants he encountered. Archer's interest was not only in orchids, but in all plants, eg. mosses, algae; and also fungi. In a letter to Sir William Hooker dated 27 July 1854[123], Archer writes:

> ...I want an elementary work also on Fungi of all sorts, so as to learn their structure sufficiently to enable me to draw them – for dried, or pickled specimens are troublesome, inconvenient & unsatisfactory." And in the same letter: "I have been trying to get a copy of your *Muscologia Brittania* in London, & Mr Bohn, my bookman has been quite unsuccessful. Do me the

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[119] Royal Society of Tasmania, *Papers &Proceedings*, 1849, list of Fellows and Honorary Members.

[120] Archer wrote in his diary: "Feb 23rd. I attended a meeting of the Council of the Royal Society at which Dr Milligan obtained leave of absence for 18 months, and I accepted the appointment at least for the present: the salary is £250 a year.

[121] J. Maiden, "Records of Tasmanian Botanists", Royal Society of Tasmania Papers and Proceedings, 1909, p.11.

[122] 27 February 1861: "At work at completion of Annual Report of Royal Society." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[123] Letters to Hooker from Archer held at Kew. DC74/8.

> favour to put him in the way of a copy for me, and also all the nos. of your *Kew Garden Misc, & Icones Plant'm*, which works you may continue to send me...

It is known from existing letters and Archer's diaries that he corresponded with English botanists such as Sir William Hooker and John Lindley[124] and the well known Tasmanian collector Ronald Campbell Gunn[125] from at least the late 1840s.[126] I cannot establish from the Archer diaries or letters how or when, Archer first met Gunn, or how he came to be sending material to the Hookers in Kew. However, it does seem most probable that Gunn could have been the one to introduce Archer to the Hookers as he was sending material to them at this time.[127]

On 11 January 1848, Archer writes in his diary, "Visited Penguin and inspected Mr Gunn's specimens of botany and works on the subject. Hooker's [Sir William] *London Journal of Botany* and *Icones Plantarum* seem desirable works." It would seem from this diary entry that they had already met, or that at least Archer knew of Gunn as a collector, but that this was the first time Archer had visited Gunn to view his botanical collection, or seen any of the publications mentioned.

Archer was, however, already at this time a keen botanical collector. It would seem quite probable that it was through his membership with the Royal Society of Tasmania that he and Gunn met, as Gunn was by then already an active member.[128] It is also possible that they may have met through Robert Lawrence, a close friend of Gunn's, and Archer's neighbour. The Archers and Lawrences certainly met regularly and dined at each other's homes from the early 1820s.[129] In Archer's letters and diaries there are several references to the long association he had with Gunn, and there is little doubt that

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[124] John Lindley (1799–1865). The inaugural Professor of Botany at University College, London 1829.

[125] Ronald Campbell Gunn (1808–1881). Early collector in Tasmania. Sent specimens to the Hookers in Kew. Met JD Hooker on his Antarctic Expedition in Hobart.

[126] There are no letters from Archer to Lindley known to exist–there are none at the Lindley Library at the Royal Horticultural Society in London, which is where Archer would have been writing to Lindley. (e-mail from C. Ashill, Lindley Library, RHS, 20–12–2006.)

[127] According to Hewson, Gunn met R. Lawrence in 1833 and had begun collecting and sending specimens to England shortly after that. H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.108.

[128] Royal Society of Tasmania, *Papers &Proceedings*, 1847, list of Fellows and Honorary Members.

[129] Wedge wrote in his diary on Jan 1825: "Accompanied Mr Lawrence to, and dined and slept at, Mr Archer's, at Woolmers." Crawford, E (ed.), *The Diaries of John Helder Wedge 1824–1835*, 1962.

Gunn made Archer's home at *Cheshunt* his base for some of his collecting trips. Although they had a mutual interest in botany, they were opposed in politics.

In a letter to Gunn dated December 1849, it can be seen that Archer already had established links with England. He writes: "I think I shall forward descriptions and specimens of what I consider now to Professor Lindley, asking him to communicate them to Dr Hooker should he not have them."[130] Lindley specialised in the taxonomy of orchids and had published works on Australian orchids.[131] Later in that same letter, discussing his work on what may have been a new species of Tasmanian orchid, Archer writes; "However I shall neither publish, nor give away specimens, until Hooker's work comes out, and we know what is & what is not a novelty."

From this it can be seen that Archer was corresponding with Hooker on a proposed work on Tasmanian flora, but as yet had not formulated the plan of going to England to work on the publication with Hooker. There is no reference in his existing diaries, or in any letters, which indicates when or why Archer resolved to go to England to work on the *Flora Tasmaniae* with Hooker. Archer had encouraged Gunn to publish a Flora on Tasmania in February 1849:[132]

> Are you aware that a Dr Mueller of Adelaide,[133] is preparing to publish the *Flora of Adelaide* in connexion with that of this Island; and that Steward [Charles Stuart] is collecting for him?[134]
>
> It would be well (would it not?) if you were to publish the *Flora of Tasmania* by subscription. Many persons would assist in bringing out a scientific work that would not purchase it when published. Now, I will give £5, then there are the members of the Tasmanian and Royal Societies, including the Bishop (who told me he would subscribe) the Governor, Puchins, Lillie, Davies, Allport, Henly, Pugh and many, many others.

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[130] NS 1313/1/1 Gunn's Correspondence, Tasmanian State Archives.
[131] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.94.
[132] NS 1313/1/1 Gunn's Correspondence, Tasmanian State Archives.
[133] Mueller arrived in Adelaide in 1847. He moved to Melbourne in 1852.
[134] Archer and Stuart had met in 1849. Stuart wrote to Mueller on 25 April 1849: "I have no doubt before this you have received a letter from a Mr Archer, who assisted me very much in my last excursion ... only a beginner in the science [botany] but very enthusiastic in the cause, & also possessed of a means of carrying out his views ... he also has a talent for drawing from nature which is most useful in exploration of the minute parts of Orchideae etc which are difficult of examination when in a dry state." R. W. Home et al. (ed), *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*, Vol 1, 1998, p.106.

Perhaps he tired of waiting for Gunn to publish and on learning that Hooker was about to commence work on *Flora Tasmaniae*, decided that this was his only chance to work on a Tasmanian Flora. According to Rozefelds, the Reverend William Spicer's *Handbook of the Plants of Tasmania* published in 1878, was the first comprehensive guide published on a state flora in Australia,[135] meaning that Archer would not have had the opportunity to work on a flora had he stayed in Tasmania. In any event, in 1856, Archer left Tasmania and sailed to England with his family, bringing with him many of his illustrations of Tasmanian orchids, his notes, several cabinets containing an extensive herbarium, and two boxes of live plants.[136]

England 1856–1859

Archer arrived in England on August 22 1856.[137] He wrote to Hooker without delay of his arrival:[138]

> Morley's Hotel Aug 22
> My dear Dr Hooker,
> At last I have actually arrived in London . . . and have brought with me, not only the members of my own family, but some individuals of other families – of plants, many in good case notwithstanding that one of the cases was a very bad one. Do me the favour to tell Sir William with my best compliments, that Mr Taylor (whose card I enclose) will forward the two cases to Kew by water on receiving his instructions.

He presently met the Hookers, both Sir William and Dr Joseph, with whom he soon formed close friendships, far beyond the acquaintance of work colleagues. Through Sir William he also met the great botanist Robert Brown,[139] whose work Archer had used as

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[135] A. Rozefelds, "A four-year Antipodean odyssey: the Reverend William Webb Spicer M.A. in Tasmania, 1874–1878", *Kanunnah*, 1:33–46.
[136] Archer diary 1856. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[137] Archer diary 1856. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[138] DC 74, 9–10.
[139] Archer wrote in his 1856 summary diary of his arrival in England; "I was enabled through Sir William Hooker to make the acquaintance of the great botanist Robert Brown, to whom I showed my drawings of Tasmanian orchids. He showed me Bauer's drawings of Australian plants, & many curious objects of Natural History. He is now upwards of 80 years old. His age tells upon him much, as might be expected, but he is still shrewd and wise in his observations on botanical subjects. He told me that "Table Mtn" in his Prodromus meant "Mt Wellington". He is still, as he has always been, an

reference in Tasmania. Archer became a life member of the Linnean Society, being admitted by the President Mr Bell the day following his arrival in London.[140]

There is a gap in Archer's records till April 1857, when, from his diary entries it can be seen that he is already established working and sketching at Kew, staying with Sir William.[141]

While in England, Archer met and worked with many of the most eminent scientists and botanists of that era;[142] Sir William Hooker, JD Hooker, Dr John Lindley, Robert Brown, George Bentham, Dr William Harvey, Rev Miles Berkely, Mr Mitten, Mr Wallace, Mr Gray, Mr Grisebach and others. Archer never met Charles Darwin however, it is certain that they were both aware of each other through the Hookers. Archer writes to JD Hooker in 1868: "Darwin is certainly a wonderful man. I regret very much that I did not ask you to introduce me to him when I was in London; but it was my own fault entirely, & I was culpably careless in respect of making the acquaintance of distinguished men when I had the opportunity of doing so."[143]

JD Hooker collaborated closely with Darwin for several years while they worked, variously on *The Botany – The Antarctic Voyage of HM Discovery Ships Erebus and Terror, in the Years 1839–1843,* and *The Origin of Species.*[144] Darwin also published a book on orchids in 1862, on which he liaised closely with JD Hooker, who was at that time working with Archer on the Tasmanian orchids. In that book *Fertilization of Orchids*, Darwin writes: "By the kindness of many friends and strangers I have been

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enthusiastic collector, accepting all that is offered to him, and wishing to add to his stores of specimens. He took me to the British Museum, and showed me some beautiful drawings of Bauer's, especially of Orchideous plants." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[140] Archer wrote in his 1856 summary diary of his arrival in England; "Having been elected, some months since, a "Fellow of the Linnean Society", I paid a fee of £36 as a composition, in lieu of annual payments, for life, and was formally admitted by the President Mr Bell, at the first meeting that I attended." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[141] Archer diary 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[142] In his diaries Archer mentions meeting and/or corresponding with these men at various times.

[143] DC172, 207–208 – Kew – Letter from Archer to Hooker dated 30/12/1868.

[144] The books on the lives of JD Hooker and Darwin are full of countless letters and details referencing the closeness of their relationship, both as scientific colleagues and as a close personal friendship. L. Huxley, *Life and Letters of Sir Joseph Dalton Hooker,* 1918, and F. Darwin, *Life and Letters of Charles Darwin,* 1887. F. Darwin, *More Letters of Charles Darwin* Vol I & II, London, John Murray, 1903.

enabled to examine . . . several species, belonging to forty-three exotic genera . . . I am particularly indebted to Dr Hooker, who on every occasion has given me his invaluable advice, and has never become weary of sending specimens from the Royal Gardens at Kew".[145]

Archer's greatest collaboration while working in England was on JD Hooker's *Flora Tasmaniae,* and where that contribution has been recognised in the past, was of course to the section covering the orchids of Tasmania, but the details of his work below will show that his contribution throughout the entire publication was of great significance.

Flora Tasmaniae

The Botany – The Antarctic Voyage of HM Discovery Ships Erebus and Terror, in the Years 1839–1843
To Ronald Campbell Gunn FRS FLS
&
William Archer FLS
this flora of Tasmania
which owes so much to their indefatigable exertions
is dedicated
by their very sincere friend JD Hooker[146]

J D Hooker published *Flora Tasmaniae* in 1860. It was the third part of his publication *The Botany–The Antarctic Voyage of HM Discovery Ships Erebus and Terror, in the Years 1839–1843*, which he had begun working on in 1843 upon his return to England from that epic voyage of exploration and scientific research.

The expedition came to Van Diemen's Land to refit and to establish a magnetic reading station in late 1840 and again in early 1841, spending in total six months in Van Diemen's Land.[147] While in Van Diemen's Land, JD Hooker met Ronald Campbell Gunn[148] who had been sending botanical specimens to Sir William Hooker, his father, at

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[145] C. Darwin, *Fertilization of Orchids*, 1862, p.157.
[146] The dedication in *Flora Tasmaniae* by JD Hooker to Gunn and Archer, J Hooker, *Flora Tasmaniae*, 1843–60.
[147] Sir W. Hooker, *Notes on the Botany of the Antarctic Voyage conducted by Captain James Clark Ross*, 1843, p.19.
[148] J. Hooker, *Flora Tasmaniae*, 1843–60, p.cxxv.

Kew, and it was the friendship they formed while together in Hobarton (later Hobart) that was eventually to lead JD Hooker to dedicate *Flora Tasmaniae* to Gunn – as well as to Archer. Although Hurburgh, in his book *The Royal Tasmanian Botanical Gardens 1818–1886,*[149] states that JD Hooker also met Archer in 1840–41, this would not have been possible as Archer was studying in England at that time. He did not return to Tasmania until 1842, having left six years earlier in 1836.[150]

JD Hooker writes of the purpose of this expedition in the *Summary of the Voyage* in Volume 1 of his *The Botany – The Antarctic Voyage of HM Discovery Ships Erebus and Terror, in the Years 1839–1843*:

> ... In addition to carrying out the above- mentioned leading views, it was enjoined to the officers, that they should use every exertion to collect the various objects of Natural History which the many heretofore unexplored countries about to be visited would afford.

Writing and publishing the results of his botanical collecting from that voyage was to take JD Hooker several years. The entire work consists of six volumes, two each for: *Flora Antarctica* 1844–47, *Flora Novae-Zelandiae* 1851–53, and the third and final *Flora Tasmaniae* 1853–59 was published in 1860. .

It was the results of his scientific expeditions that lead JD Hooker to form what are now known as phytogeographic concepts – concepts of relatedness and distribution patterns of plants. He was witnessing, and must have been formulating an image of what we now know as the Gondwanan flora.[151] This and his collaboration with Charles Darwin led JD Hooker, in the *Introductory Essay* of *Flora Tasmaniae,* to make the bold assertion that he had changed his views on the origins of species — that they were mutable. This makes *Flora Tasmaniae*, published in 1860, shortly after the publication of Darwin's *Origin of Species*, historically very important as the first scientific work published to accept the hypothesis of evolution.

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[149] M. Hurburgh, *The Royal Botanical Gardens 1818–1986*, 1986, p.41.

[150] B. Lennard, "William Archer (1820–1874)", THRA Papers and Proceedings vol 27, no 3 Sept 1980, p.103. Archer went to England twice; the first time to study architecture in 1836, and then to work with Hooker in 1856.

[151] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.108.

JD Hooker writes in the *Introductory Essay* to *Flora Tasmaniae*:

> This I commenced in the hope of being able thereby to extend our knowledge of the affinities of its Flora, and, if possible, to throw light on a very abstruse subject, viz the origin of its vegetation, and the sources or causes of its peculiarity. This again induced me to proceed with the inquiry into the origin and distribution of existing species; and, as I have already treated of these subjects in the Introduction to the New Zealand Flora. I now embrace the opportunity afforded me by a similar Introduction to the Tasmanian Flora, of reversing the opinions I then entertained, and of again investigating the whole subject of the creation of species by variation, with the aid of the experience derived from my subsequent studies of the Floras of India and Australia in relation to one another and to those of neighbouring countries, and of the recently published hypotheses of Mr Darwin and Mr Wallace.

He continues:

> In the Introductory Essay to the New Zealand Flora, I advanced certain general propositions as to the origin of species, which I refrained from endorsing as articles of my own creed: amongst others was the still prevalent doctrine that these are, in the ordinary acceptance of the term, created as such, and are immutable. In the present Essay I shall advance the opposite hypothesis, that species are derivative and mutable; and this chiefly because, whatever opinions a naturalist may have adopted with regard to the origin and variation of species, every candid mind must admit that the facts and arguments upon which he has grounded his convictions require revision since the recent publication by the Linnean Society of the ingenious and original reasoning and theories of Mr Darwin and Mr Wallace.
>
> Further, there must be many who, like myself, having hitherto refrained from expressing any positive opinion, now, after careful consideration of these naturalist's theories, find the aspect of the question materially changed, and themselves freer to adopt such a theory by their own experience.
>
> The natural History of Australia seemed to me to be especially suited to test such a theory, on account of the comparative uniformity of its physical features being accompanied with a great variety in its Flora, of the differences in the vegetation of its several parts; and of the peculiarity both of its Fauna and Flora, as compared with those of other countries.

As well as Archer's contribution, there is another important Tasmanian connection to this publication. The Tasmanian Government had granted £350 toward the printing of this book. Archer had been a member of the Tasmanian Parliament — MLC Westbury 1851–Jan 1855 — and as such played a key role in having this grant approved. I could find no record of how, or when, this grant was approved. The Tasmanian Parliament did not have Hansard at this time, and no records held at the Parliamentary Library contain any reference to this grant. Nor does Archer make any comment regarding the grant of the monies in his diaries. However, Harvey in a letter to JD Hooker after visiting Archer in Tasmania writes; "I like him *very much* – & I need not tell you that he is a *warm friend & admirer* of yours. You have had substantial proof thereof already – the Tasmanian grant to your flora having been altogether his device, management & doing".[152] Archer writes to JD Hooker of the Grant and of his own financial contribution in a letter dated July 26 1854:[153]

> I was very much gratified at receiving your welcome reply to my communication respecting the grant of our Council to you...therefore I authorize you (& enclose a draft) to apply to my agent in London...for £100, to meet any additional expenses that you may incur on their [the orchid drawings] account...

JD Hooker notes in the Preface of *Flora Tasmaniae:*

> I had the unexpected gratification of receiving from the Governor and Parliament of Tasmania the announcement that they had unanimously awarded me a grant of £350, in consideration of my services in the investigation of the Flora of the Southern Hemisphere, especially that of Tasmania.

On hearing of this grant Darwin wrote to JD Hooker:

> What capital news from Tasmania; it really is a very remarkable and credible fact to the colony.
>
> (This letter then stated that his "castle in the air" was emigration to Tasmania, and he already regarded the colony as his 'headquarters')

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[152] S. Ducker, (ed.), *The Contented Botanist: Letters of WH Harvey about Australia and the Pacific*, 1988. p.195–196.

[153] DC 218, 22–23.

> I feel very proud of my adopted country (Tasmania); it really is a very singular and delightful fact, contrasted with the slight appreciation of science in the Old Country.[154]

JD Hooker and Darwin were close friends as well as scientific collaborators. They had met while Hooker was a young man, in 1839, when they had been introduced by Charles Lyell,[155] a friend of Sir William Hooker. Darwin had taken an interest in JD Hooker's projected career as a naturalist,[156] and had given him a copy of the proofs of his early work from the *Voyage of the Beagle* expedition to read, and Hooker carried a copy of the published book with him on the voyage. They began corresponding in 1843. Darwin wrote in his *Recollections*, "I have known hardly any man more lovable than Hooker." They worked closely together. Darwin had access to JD Hooker's manuscripts, and described *Flora of Tasmaniae* as the strongest buttress for his theory of Evolution.[157] In having access to JD Hooker's manuscript, Darwin would certainly have been reading of William Archer's significant contribution to the botany of *Flora Tasmaniae* as Archer is cited in many references by JD Hooker[158] and as previously noted, Darwin knew of the Tasmanian Government's grant to aid the publication of *Flora Tasmaniae* which had been arranged by Archer.

As noted above, there is no known correspondence between Archer and the Hookers to indicate how or why he came to be working on *Flora Tasmaniae.* JD Hooker writes in the Preface to *Flora Tasmaniae*:

> ...At the same time [as the £350 grant from the Tasmanian Government] I received the most encouraging assistance from my friend William Archer, Esq. of Cheshunt, Tasmania, who forwarded to me a beautiful series of drawings of Tasmanian Orchids, together with £100[159] to be expended on

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[154] F. Darwin, *The Life and Letters of Charles Darwin*, Vol 1, 1887. Darwin visited Tasmania in early 1825.

[155] Charles Lyell, geologist, author of Principles, 1839.

[156] JD Hooker had originally wanted to go on Ross's proposed expedition to the Antarctic as a botanist. Ross had advised him to first study medicine as the expedition could not afford to have on board someone who was there purely as a naturalist.

[157] Burns, TE. & Skemp, JR. *Van Diemen's Land Correspondents 1827–1849*, 1961, p.v.

[158] See later in this Chapter.

[159] To give an understanding of the enormous value of that £100 Archer donated to Hooker, it should be noted that the Government Grant he received from England was for £1000 for the entire six volume work. The Tasmanian grant of £350 was for *Flora Tasmaniae.*

> the Flora, and he soon afterwards arrived himself in England,[160] and rendered me still more valuable aid by his observations and collections, which is duly acknowledged in the body of this work. I have thus been enabled greatly to extend the letterpress and illustrations of this Flora, by putting figures of many more species on the plates, making the descriptions fuller, and adding thirty plates, including sixty species, chiefly of *Orchideae* (of many of which Mr. Archer had prepared the drawings), and by appending 130 pages devoted to general considerations on the Botany of Australia and other southern countries.

JD Hooker acknowledges Archer's great contribution to the *Flora Tasmania* in the Introduction, where he writes:

> It remains only to mention my friend William Archer, Esq, FLS of Cheshunt, who, after a residence of upwards of ten years in Tasmania, during which he sedulously investigated the botany of the district surrounding his property, returned to England in 1857, with an excellent herbarium, copious notes, analyses, and drawings, and a fund of accurate information on the vegetation of his native land, which have been unreservedly placed at my disposal. I am indeed very largely indebted to this gentleman, not only for the many plants described, and much of the information that I have embodied in this work, but for the active interest he has shown during its whole progress, and for the liberal contribution of the thirty additional plates* (*The grant of Her Majesty's Treasury towards this work is wholly laid out in the payment of the illustrations, and provided for only 170 of these. The remainder were defrayed out of a sum of £100, liberally placed at my disposal by Mr Archer, to be expended on the work.) all of which are devoted to the *Orchideae*, and chiefly made from his own drawings and analyses.

William Archer's contribution to *Flora Tasmaniae*

In the following pages, I will work through each section of *Flora Tasmaniae* indicating where JD Hooker acknowledges Archer's input to the work. This builds into a considerable body of work, showing, that as well as the illustrations covered in Chapter 3, Archer made a real and significant contribution to the botany of this publication. There are also many references throughout the text where Hooker acknowledges the use of Archer's extensive herbarium to aid in the identification of species.

[160] Archer writes of sending drawings in August 1853, some three years before he arrives in England.

Hooker writes in the Introduction of *Flora Tasmaniae*:[161]

> The locality indicated by the letters "Ch" as the habitat of many Tasmanian plants collected by Mr Archer, consists of a tract of country (in which is included his estate of Cheshunt, about ten miles south-east of Deloraine and 600 feet above the sea), extending southerly from Mt Gog, on the Mersey, to the Falls of the Meander, and westerly from Quamby's Bluff to the Lobster Rivulet; the whole comprising an area of about 400 square miles (Fig. 6).

Indeed, the letters "Ch" are spread throughout the text of *Flora Tasmaniae*, as is Archer's name listed as a collector under the Habitat section in the description of plants. Archer appears to have been satisfied with the degree of acknowledgement JD Hooker gives him within the text of *Flora Tasmaniae*, writing in his diary in July 1860; "Looking through the last two parts of Dr Hooker's *Flora Tasmaniae*. I find that he has dedicated the work to Gunn & myself, & makes ample acknowledgement of the assistance which I gave him."[162] He writes to JD Hooker in 1871 reminiscing about their time together; "...but still you have immortalised me in your beautiful *Flora Tasmaniae*, and Bentham has paid me a compliment in his famous *Flora Australiensis* in connection with the result of my labours on *Eurybia & Olearíae*."[163]

[161] J. Hooker, *Flora Tasmaniae*, 1843–60, p.lxxxv.
[162] Archer diary July 16, 1860. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[163] Archer letter to Hooker held at Kew dated 8 September 1871, DC172, 219.

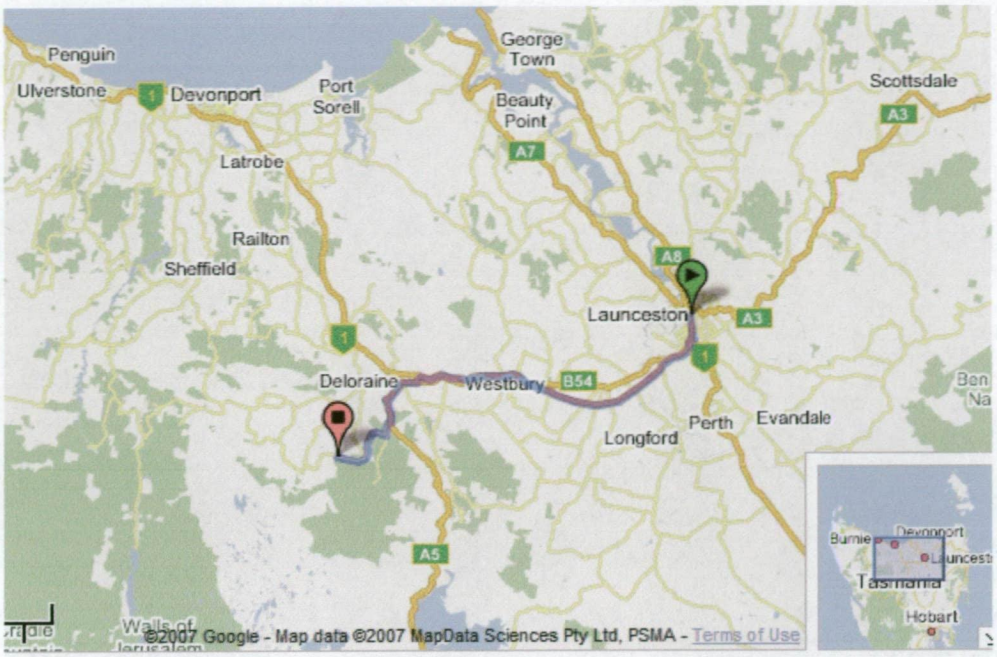

Figure 6: Map of Cheshunt area.

The Orchids

In 1860, JD Hooker writes of orchids: "… Considerably more than half the Australian Orchids, about 120 species, are confined to the east coast and Tasmania. Tasmania contains 74 species, all but 8 of which have been found on the neighbouring continent".

Writing of Archer's contribution to this section of *Flora Tasmaniae* Hooker writes:

> On the other hand I have derived the greatest assistance from Mr Archer's drawings, notes, and specimens, as well as from his intimate acquaintance with the living plants . . . and I can only add, that for his having afforded me the benefit of his accurate knowledge of the species, I should in several cases have failed to discriminate them aright, and in other cases, where I had properly discriminated, to have selected their most important diagnostic characters. [164]

During April 1857 Archer was busy on the orchids, as is evidenced by the many references in his diary to this work. It is obvious from these references and the quote

[164] J. Hooker, *Flora Tasmaniae*, 1843–60, part III, vol. II Introduction Monocots.

above that JD Hooker and Archer collaborated closely on the work, and that Hooker sought and valued his advice and opinions on many aspects of this section of *Flora Tasmaniae.*

Following are JD Hooker's acknowledgements of Archer's contribution to each genus of the orchids.[165] It is also obvious that Hooker also relied upon Archer's herbarium for much of his research.

> Thelymitra – Gen 1 Thelymitra, Forst.
> The Tasmanian species, of which Brown had only one, may be reckoned at seven, according to Mr **Archer's** and my opinions. Of these, four belong to the very distinct section *Macdonaldia*, which has no plumose appendages to the column, and are very distinct from one another (though it is sometimes difficult to discriminate *dried* specimens of *T. carnea* and *T. venosa* from small forms of *T. nuda* and *ixioides*).[166]

Archer, on several occasions, writes in his diary of the difficulties JD Hooker and he encountered in deciding upon the number of species in *Thelymitra.* From these diary entries it can be seen that Hooker actively sought Archer's advice in writing descriptions of species:

> Having received a letter from Dr Hooker respecting the number of species of *Thelymitra*, I commenced today a careful examination of my specimens, in order to assist him in determining the question.[167] Today I began to make my deductions from my observations, coming to the conclusion that there are 4 species, instead of 2, as Dr Hooker thinks.[168] I went to Kew to examine the Tasmanian Orchids with Dr Hooker.[169] Dr H and I decided upon reducing all the species of *Thelymitra* to 3 & a possible 4th *T. nuda, ixioides, & augustifolia*, Br Prod.[170]

A detailed account of Archer's botanical input to the orchids of *Flora Tasmaniae* follows. I have shown Archer's name in bold where JD Hooker references his

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[165] Emphasis mine throughout.
[166] J. Hooker, *Flora Tasmaniae*, 1843–60, p.3.
[167] Archer's diary 24 April 1857. On the 25th he merely wrote: "Busy at Thelymitra", however on the 26th he wrote: "I worked hard at Thelymitra, having examined, & made part drawings of a large number of specimens." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[168] Archer's diary 27 April 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[169] Archer's diary 6 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[170] Archer's diary 6 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

contribution. In the following section, I use only the names given by JD Hooker and have not added the modern nomenclature.

Thelymitra venosa (Br. Prodr. 314)[171]

> Hab. Moist ground, flooded in winter. Circular Head and Rocky Cape, *Gunn:* Cheshunt and Port Sorrell, ***Archer***. – (Fl. Dec.)
>
> This varies with white and blue flowers. Lindley describes *T. venosa*, from Bauer's drawings, as having serrulate segments of the perianth; this is not the case with my Sydney specimens, but **Archer** tells me that the lip has sometimes small notches along the margin. The Australian specimens have sometimes six flowers, each nearly an inch across.

Thelymitra nuda (Br. Prodr. 314)[172]

> For the var. β I am indebted to Mr **Archer**: it may prove a distinct species, but we have very few specimens.

This comment by JD Hooker is interesting for a number of reasons; the use of "we" indicates that he considers Archer as a collaborator. The comment also indicates the use of Archer's herbarium specimens, and the use of "we have very few specimens" indicates that he considers Archer's and his own herbarium specimens in the same light, that is, he uses both in determining species.

Thelymitra augustifolia (Br Prod.319) [173]

> Hab. Sandy soil at Welcome River, Circular Head, etc, not uncommon, *Lawrence, **Archer**, Gunn.* – (Fl. Nov)
>
> I am indebted to Mr **Archer** for discriminating my specimens of this species, which were intermixed with *T. nuda* . . . Brown's specimens in the British Museum are very small and slender, though not more so than many of ours, and we rely on the description of the lobes of the column for the identification of our plant with his.

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[171] J. Hooker, *Flora Tasmaniae*, 1843–60, p.4.
[172] J. Hooker, *Flora Tasmaniae*, 1843–60, p.5.
[173] J. Hooker, *Flora Tasmaniae*, 1843–60, p.5.

In this note, it can be seen that JD Hooker relies on Archer's expertise in the botany of the orchids, and defers to him in the identification of some specimens. Again, Hooker refers to the specimens as "ours".

Archer and JD Hooker were still working on orchids in May of 1857, and Archer writes in great detail of their collaboration on other species:

> We also compared my drawings & specimens of *Genoplesium* Br (Prod) with Dr H's New Zealand *Prasophylla*, when I pointed out 3 that were *Genoplesia, P. truncatum, fimbriatum, & nudum*, and that *P. nudum* was probably identical with *P. brachystachyum*. Lindl. & *Genoplesium baueri*, Br. I told him that *P. truncatum* Br. was also a *Genoplesium*. Brown made a mistake in describing *Genoplesium* from Bauer's drawing, by omitting the petals, and describing the lacineae of the column as petals aduate below with the column, and speaking of the lacineae as wanting, or else he omitted the lacineae, & described the petals only, which are indeed, as are those of the true *Prasophylla*, somewhat aduate to the base of the column. I took away with me flowers of *P. fimbriatum* Br, *truncatum & nudum*, Hook.f. & another *Genoplesium* of Gunn's, to examine.[174] I examined the specimens of the *Genoplesia* that I brought from Kew & found the result exactly what I expected.[175] I examined some specimens of *Prasophylla* with my microscope, and went through all my specimens, completing my clavus for Dr Hooker, and sending it to the post for him.[176] Made a list of specimens of monocotyledonous Tasmanian plants, with their localities, for Dr Hooker & a copy of it.[177] Drove to Kew, and went through *Prasophyllum & Caladenia* with Dr Hooker.[178]

On June 6th Archer wrote in his diary: "I made drawings & dissections of a *Prasophyllum* from Sydney, (Binoe) of the same character as to the stigma as *P. parvifolium* Lindl., and copied them & the drawings of the latter for Dr Hooker, to whom I enclosed them in a note." (Fig. 7).

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[174] Archer's diary 6 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[175] Archer's diary 9 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[176] Archer's diary 11 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[177] Archer's diary 19 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[178] Archer's diary 21 May 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

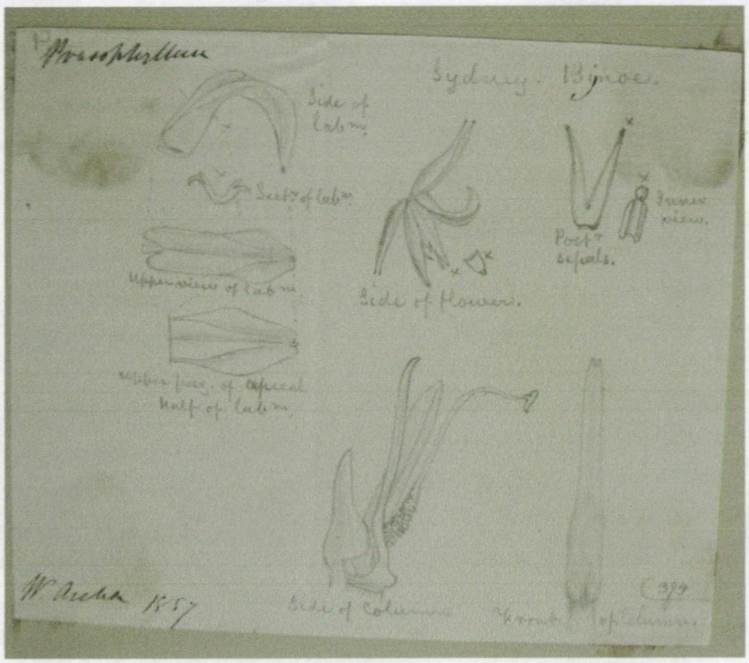

Figure 7: Examples of Archer's sketches made while working at Kew.

> Gen. IV Prasophyllum, *Br.*[179]
> …Mr **Archer** has made a detailed study of the Tasmanian species, and I have gladly availed myself of his arrangement and characters of the species; these appear to me good, though I must own it is not possible to find in all the dried specimens of any species all the characters we agree in considering to be the diagnostics of that species…The genus *Genoplesium*, founded by Brown upon a drawing of Bauer's we have included in *Prasophyllum*, with an amended character…we are compelled to suspect some error.

From Hooker's comments it can again be noted that he relies on Archer's work for the identification of the species and he uses "we" to indicate that they are working together to define characters for some species.

> *Prasophyllum australe* (Br. Prod. 318)[180]
> I have seen no authentic specimen of this, but I have of Brown's *P. elatum*, the staminodia of which precisely accord with those of **our** plant.
>
> *Prasophyllum patens* (Br. Prod. 318)[181]

[179] J. Hooker, *Flora Tasmaniae*, 1843–60, p.9.
[180] J. Hooker, *Flora Tasmaniae*, 1843–60, p.10.
[181] J. Hooker, *Flora Tasmaniae*, 1843–60, p.11.

> After laborious examination of very many specimens, I find myself quite unable to distinguish all Gunn's specimens of *P. truncatum* from *P. patens*. **Archer** however, in his notes and drawings, distinguished two species by the form of the aduate lamella on the surface of the labellum.
>
> *Prasophyllum truncatum* (Lindl. Gen. et Sp. Orchid. 513).[182]
> I am quite unable to distinguish all states of this, when dry, from *P. patens*, this I find from **Archer's** drawings to be. . .
>
> *Prasophyllum fuscum* (Br. Prod. 318)[183]
> I find it extremely difficult to distinguish this from *P. alpinum*. **Archer** defines this as having the lateral sepals free. [Curtis in the *Student's Flora of Tasmania* recognised these as two separate species.[184]]

Hooker's notes on *Prasophyllum* above show his reliance on a combination of; Archer's illustrations, his notes, his herbarium specimens, and above all Archer's collaboration and advice, to identify species.

> GEN IX. *Pterostylis*,
> *Pterostylis squamata* (Br. Prod. 327)[185]
> **Archer** remarks that the labellum is irritable, as in most of the genus
> *Pterostylis rufa* (Br. Prod. 327)[186]
>
> I have described two forms of this plant, both from Mr. **Archer**; which agrees with the authentic specimens of Brown's *P. rufa*, I have seen only a drawing: it has larger ...of the other I have examined three specimens from Mr **Archer** ...

In this instance Hooker refers to using several specimens from Archer's herbarium. Archer appears to have separated the *Prasophyllum rufa* specimens into the two forms. Hooker accepted these differences.

> *Pterostylis aphylla* (Lindl. Gen. et Sp. Orch. 392)[187]
> A very curious little species, of which I have seen no leaves, but **Archer** says these appear in Winter.
>
> GEN. XI. *Microtis*, Br.[188]

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[182] J. Hooker, *Flora Tasmaniae*, 1843–60, p.12.
[183] J. Hooker, *Flora Tasmaniae*, 1843–60, p.12.
[184] W. Curtis, *The Student's Flora of Tasmania, Part 4a*, 1979, p.75.
[185] J. Hooker, *Flora Tasmaniae*, 1843–60, p.20.
[186] J. Hooker, *Flora Tasmaniae*, 1843–60, p.21.
[187] J. Hooker, *Flora Tasmaniae*, 1843–60, p.22.
[188] J. Hooker, *Flora Tasmaniae*, 1843–60, p.24.

> I have characterised three species of this genus, following Brown's and Lindley's descriptions, and **Archer's** notes and drawings, but am unable to distinguish the dried specimens...
>
> GEN. XV. *Caladenia,* Br.
> *Caladenia filamentosa* (Br. Prod. 324, non Lindl.)[189]
> **Archer's** specimens of this fine species are the only Tasmanian ones I have seen...
>
> *Caladenia latifolia* (Br. Prod. 324)[190]
> I have examined two specimens, collected by **Archer**, near Hobarton, of which the flowers were blue when fresh.
>
> *Caladenia angustata* (Lindl. l.c. 420)
> ...in some of Mr **Archer's** specimens...

Of the 74 orchids described by Hooker, 40 list Archer's name in the Habitat section, which most probably indicates that Hooker had access to Archer's specimens of those species. Of the remaining 34 species, the majority simply say "common throughout the colony" or similar, and no collector is cited. Archer had prepared illustrations of most of these remaining species, so it would seem likely that he also had herbarium specimens of those species.

Archer's contribution to the orchid section of *Flora Tasmaniae* was substantial. Not only for his illustrations, which has been acknowledged in the past, but also for the significant botanical input. JD Hooker clearly relied upon, and in cases deferred to, Archer's skills and knowledge as a botanist in the description of orchid species.

Archer's Contribution to Other Plants in *Flora Tasmaniae*

Archer contributed not only to the orchids, but to the botany throughout *Flora Tasmaniae*. Although JD Hooker had visited Tasmania, he had not seen living examples or the habitats of the majority of the plants which he was writing about and relied on Archer's local knowledge and information in this regard.

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[189] J. Hooker, *Flora Tasmaniae*, 1843–60, p.27.
[190] J. Hooker, *Flora Tasmaniae*, 1843–60, p.29.

Archer worked for some time on sedges, beginning in early April 1857. There are diary entries from the 16th through to 23rd[191] relating to this. *Carex archeri* was named after him

> *Carex archeri* (Boott)
> Hab. Cumings Head: ***Archer***

Carex gunniana, Carex cataractae, Carex breviculmis, Uncinia tenella, Uncinia riparia and *Uncinia compacta* all have Archer and Ch. mentioned in the description (habitat) of the plants.

By the end of June Archer had commenced working on the Tasmanian grasses. The Tasmanian grasses had been of interest to Archer from his early days of botanical work (his diary entry from the first of January, 1848,[192] states his ambition to collect and draw every species of Tasmanian grass). Throughout the remainder of June and into August, Archer continued his work on the grasses.[193] *Amphibromus archeri* is named after him.

Archer also contributed to the *Ericaceae,* a number of which bear his name.

> Gen XIII **Archeria**, Hook.fil.[194]

> JD Hooker writes in *Flora Tasmaniae*;
>
> A remarkable genus, intermediate between *Prionotes* and *Epacris*; some species having the distichous foliage, and solitary, pedicelled flowers of *Prionotes*; others differing from both genera in having terminal racemes; and all from *Prionotes* in the stamens being inserted on the throat of the corolla, and the placentae being basilar; whilst they all differ from *Epacris* in their ebracteate calyus and placentation. (I have named this curious genus in honour of W **Archer**, Esq, of Cheshunt, in Tasmania, a zealous **botanist** and acute observer, to whom I am indebted for a very valuable series of drawings

[191] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[192] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[193] Archer does not go into the detailed descriptions when writing about grasses as he does when writing about the orchids, merely writing "busy with my grasses" or similar.
[194] J. Hooker, *Flora Tasmaniae*, 1843–60, p.262.

> of *Orchideae*, which will be published in this work, and for much important aid in its preparation.

The section on conifers also contains references to Archer's input.

> DISELMA Hook. F. Endemic Tasmania
>
> Plate XCVIII
> A male, and B, female plants ... from Mr **Archer's** drawings.[195]

In this plate Archer does not receive any credit as illustrator, but as Hooker notes, some of the dissections are from Archer's drawings. There is no copy of any of these drawings known to exist. Archer does not mention drawing these while in England as he does some others, so it is possible they were among some brought with him to England.

Archer also contributed to the section on ferns in *Flora Tasmaniae* in making his herbarium specimens available to Hooker. The letters *Ch* indicate Archer's specimens were used throughout or often in *Flora Tasmaniae*. Archer had been collecting ferns for some time, his diary entries relating to this commence on the 7th of August 1857.[196]

Archer had a very substantial collection of moss specimens in the herbarium he took with him to England, many of which – upwards of 70 – were new to botanists.

Natural Order V MUSCI, Juss (by W Wilson)

> Of the Tasmanian mosses (about 250) here described, the majority (180) were collected by Mr Gunn and myself, and have been elaborated by Mr Wilson; the remainder consists of additions to the Tasmanian Flora, chiefly made by my friend W **Archer**, Esq, FLS, of Cheshunt and which have been examined and described by Mr W Mitten. Mr Mitten has indeed prepared a paper on Mr **Archer**'s Mosses, which will be presented to the Linnaean Society of London.[197]

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[195] J. Hooker, *Flora Tasmaniae*, 1843–60, p.353.
[196] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[197] J. Hooker, *Flora Tasmaniae*, 1843–60, p.160.

Considering the significance of his contribution, Archer makes surprisingly little mention of this in his diary. There are only three references to Mitten and the mosses.[198] *Isothecium archeri* is named after him.

Although Archer is widely known for his illustration of the orchids for *Flora Tasmaniae*, I have to date found no reference to his illustration of Fungi for the work. This is a strange omission, as his contribution comprises a large part of the work on fungi in *Flora Tasmaniae*. See Appendix 6 for details on Archer's work on the Fungi.

Flora Tasmaniae was published over a period of some years[199] (see Appendix 7, Table 1 for dates) and Hooker sent each section to Archer as it was printed to review.[200]

In August 1859[201] Archer writes in his diary; "Dr H is working at Supplement to the Flora Tasmaniae & wishes me to give him all the information I can". From the number of references to Archer in the Supplement of *Flora Tasmaniae*, they must have worked closely together on revising the section.

> P356 (page 26) *Viola hederacea* Lab. Mueller considers this to be very distinct from *V. sieberi*, but after another careful examination with Mr **Archer** of Sieber's original specimens and of those figured in the *Flora Exotica*, together with a very fine suite of forms (collected by Mr **Archer**), we are unable to find any characters that would make of it even a permanent variety...
>
> There is, however, a plant which I have regarded as a form of *V. hederacae*...which Mr **Archer** thinks may prove distinct...
>
> P357...**Archer**, who does consider it distinct, collected it at Cheshunt and on the Western Mountains.

---

[198] On 19 May 1858, Archer writes of meeting Mitten and leaving some mosses, on 8 October 1859, he wrote to Mitten asking for the return of his specimens, and finally on 4 November 1859, he writes of sending duplicate specimens to Mitten. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[199] Stafleu FA. & Cowan RS. *Taxonomic Literature Vol1, A–G*, 1976, p.271.

[200] For example, on 24 July 1857, Archer writes: "Received Part 4 of the Flora of Tasmania from Dr Hooker." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[201] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

> P358 (page 58) *Pelargonium acugnaticum*. Mueller and **Archer** confirm my suspicion of this being referable to *P. australe*
>
> (p66) **Archer** considers that *Boronia citriodora* Gunn. and *B. gunnii* Hook. fil. may possibly prove varieties of *B. pilosa* Lab.
>
> P364 Mr **Archer** agrees with me in thinking this an alpine form of *G. collinum* Lab. He has found on the Western Mountains a very distinct-looking variety of it, growing prostrate, …To **Archer** and myself it appears more referable to *G. collinum* or *alpigenum* than to *involucratum.*

This shows that JD Hooker collaborated with Archer, and asked for his input in reviewing the already published work.

Other Work

Archer notes in his diary while at Kew, that he was busy on the identification of orchids for JD Hooker, and made sketches of his work. There are examples of some of these sketches held at Kew, although some are not of Tasmanian species and therefore not included in *Flora Tasmaniae*. Archer was evidently assisting Hooker in researching Australian orchids as well (Fig. 8).

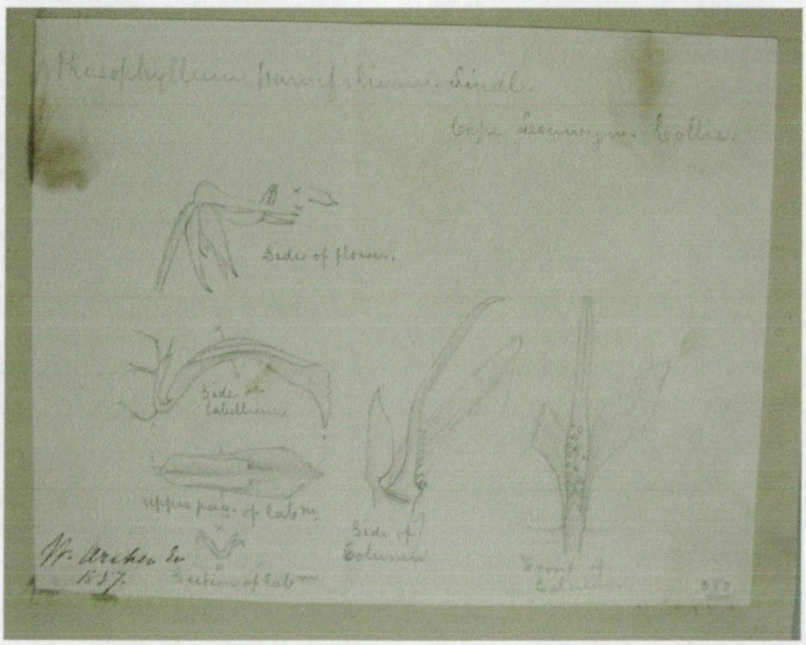

Figure 8: Example of non–Tasmanian orchid sketches.

A discussion of some of Archer's other botanical work is warranted at this point.

***Pherosphaera hookeriana* Archer**

Figure 9: Pherosphaera hookeriana Archer.

Archer identified this genus in the late 1840s and sent his description of it to Lindley. In a letter to Dr Hooker dated 26 July 1854[202] Archer wrote: "...Your excellent Father's [Sir William Hooker] announcement to me of the publication, in his *Journal of Botany*, of my description of *Pherosphaera* & *Microcachrys* (which I had sent to Dr Lindley, without receiving any reply to my letter) both gratified & surprised me: however, if you think well to alter the name or the description of the new genus, do so without reference to my doings." (Fig. 9).

There has been much debate, even from as early as in *Flora Tasmaniae* regarding the description of this species and the specimens described. Hooker wrote in *Flora Tasmaniae*:[203]

> In 1847, Mr Archer, having found the true female of *Athrotaxis tetragona* Hook., and perceiving that it is neither that of an *Athrotaxis*, nor agreed

[202] DC 218, 22–23.
[203] J. Hooker, *Flora Tasmaniae*, 1843–60, p.355.

> with my description of the female flower of *Microcachrys*, described it as a new genus, and called it *Pherosphaera hookeriana* (an allusion to its orbicular ovules). At the time Mr Archer discovered a third genus of these micro-conifers, and erroneously assuming it to be what I had described as *Microcachrys tetragona* ♀ transfers that name to it. Fortunately Mr Archer, being now in England, has kindly aided me in clearing up this confused matter, and we have together come to the conclusion, that it will create the least perplexity to retain the name *Microcachrys tetragona* for the plant figured originally as *Athrotaxis tetragona*. The name *Pherosphaera* we transfer to the plant whose female flowers I confounded with *Microcachrys*, and whose male flowers being collected into almost globose amenta, will justify the appellation; and for the plant Mr Archer supposed to be my female *Microcachrys*, we propose the name *Diselma*, in allusion to the two ovuliferous scales. I have in this matter to express further my obligation to Mr Archer, both for his assistance in settling synonymy, and for some very valuable notes and observations upon the pollen and ovules etc, of many of the Tasmanian Conifers, made upon living specimens.

In a recent article in *Taxon* (May 2004), R Brummitt, R Mill and A Farjon, sort out the nomenclature, and that *Pherosphaera hookeriana* W. Archer bis is nomenclaturally the correct name for *Microstrobos niphophillus* J Garden & LAS Johnson. This shows that Archer's original description was quite correct.

Archeria Hook.f

Although Archer did not name this genus, I have included it because it was the centre of a curious battle between JD Hooker/Bentham and Mueller, all of whom wrote to Archer – and Archer to them – regarding the placement of the genus. Mueller maintained that it should be regarded as an *Epacris* and not as a separate genus in its own right, and letters were exchanged – apparently quite heated at times – about this.

Archer wrote to Sir W Hooker in a letter dated 22 May 1865:[204] "It is very sad that Mueller should so far forget himself as to write in the manner described by Dr Hooker to him and Bentham." On 20 July 1868 Archer writes to JD Hooker: "I hear from Mueller now and then; & sometimes perhaps, unwittingly, by the present of a few specimens, help him to fight Bentham and yourself."

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[204] DC 75, 1–6.

While in England, Archer had met George Bentham[205], who was to begin working on *Flora of Australia* and *Genera Plantarum* with JD Hooker. Archer tried to arrange for a grant, similar to the one he had organised for *Flora Tasmaniae* for this work. A letter to Bentham dated April 11th 1859[206], includes a copy of a proposal for the grant:

> Memorandum.
> Proposed work on the Flora of Australia by Mr George Bentham. VPLS
> The proposed publications will include all the known plants of the Aust[ralia]n Cont[inen]t, which are supposed to number 8000 species.
>
> A 4–to [quarto] volume, containing about 1000 species with 60 to 70 plates (uncol[oure]d) yearly for 8 years.
>
> Mr Bentham is to undertake the descriptions & will employ Mr Fitch upon the plates.
>
> It is proposed that the amount of £2500 should be granted, - of which NS Wales might give £1000, Victoria £1000, & S. Australia £500, – to be paid by yearly instalments of about £312.
>
> This amount would give Mr Bentham £150 a year, – £800 or £900 in all for the plates, & £400 to £500 for the purchase of copies for the Colonies contributing, & for contingent expenses...

Although the grant was not successful, Bentham and Hooker worked on the Flora for many years. In a letter to Sir William Hooker dated 20 February 1862[207] Archer wrote: "I regretted very much...that I was unable to advance the object that Bentham had in view as regards the *Flora of Australia* generally. I found that, though I believe Bentham, or Dr Hooker, is the fittest man to work out the whole subject of Australian Botany, I could not bring myself to ignore Mueller on his own ground". Archer seems to have been caught in a war that existed between Mueller and the English botanists – JD Hooker and Bentham in particular. There are frequent humorous and exasperated exchanges between Archer and JD Hooker regarding Mueller's work on *Archeria* as a genus.

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[205] On March 12 1859 Archer wrote to Bentham: "I shall be very happy to dine with you on Thursday next at 6 o'clock." Bentham Correspondence, Kew, Vol 1, 57.
[206] Bentham Correspondence, Kew, Vol 1, 56.
[207] DC 75, 1–6.

Archer had corresponded with the well known botanist Ferdinand von Mueller in Melbourne for many years (Archer also knew of Mueller when he still lived in Adelaide as noted in his letter to Gunn), even before he travelled to England.[208] In the 1870s they met when Archer lived for a time in Melbourne.[209] In a paper in 1870 in the Royal Society of Tasmania *Papers & Proceedings*,[210] Mueller shows the regard with which he held Archer as a botanist when he writes of his assistance in his work:

> *Pherosphaera hookeriana* (W Archer in Hook. *London Journal of Botany* ii 52 in part, J Hook. Fl Tasm. i. 355, & 1C) ...Mr Archer, FLS, of Cheshunt, who many years ago defined the genus *Pherosphaera* and more recently aided Dr Hooker in the elucidation of the Alpine Coniferae of Tasmania, has shown me the kindness, while on a visit to Melbourne, to examine the plant with me. We established from remnants of the male amenta the identity of one of the dwarf, but erect, Coniferae of Mt Field with his *Pherosphaera*, fruit not being found, although I did search for it.

Archer also continued his correspondence with JD Hooker after his return to Tasmania. From the letters it appears that they had developed a close friendship, far beyond their mutual interest in botany. While not all the actual letters are known to exist, Archer's letter journals from 1870 and 1871, and the letters at Kew, show that Archer and the Hookers, father and son, corresponded on a regular basis. The letters mention his fond memories of their time at the King of Hanover's (Fig. 10), his wish to be able to work as a naturalist. He writes on 23 November 1860,[211] shortly after his return from England: "I miss very much my visits to Kew, but have not given up the idea of some day repeating them.", and on 20 July 1868[212] a rather desperate: "fixed here, ten miles from the nearest post office, with nothing beyond me but mountains and kangaroos, in the midst of all kinds of bucolic associations, I sigh for a visit to the King of Hanover's & the sound of your cheerful greeting, with the chance of a chat with my kind & excellent

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[208] In a letter to Gunn on 9 February 1849, Archer wrote: "Are you aware that a Dr Mueller of Adelaide, is preparing to publish the Flora of Adelaide in connexion with that of this Island; and that Steward is collecting for him?" Archer would most probably have that information from Mueller himself, as Gunn would have been aware of this information had it come from the Royal Society. NS 1313/1/1 Gunn's Correspondence, Tasmanian State Archives.

[209] Archer diary dated 2 June 1871: "Walked through the Botanical Gardens and called on Dr. Mueller". 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[210] Royal Society of Tasmania, *Papers & Proceedings*, 1870, p.19.

[211] DC 75, 1–6.

[212] DC 172, 197.

friend Sir William, and then a cup of tea, perchance, from your spirituelle "Mrs Hooker".[213]

Figure 10: King of Hanover at Kew Gardens.

While Archer maintained his friendship with the Hookers, how did he –a deeply religious man – feel about *Flora Tasmaniae* and the acceptance of Darwin's theory of evolution?[214] Surprisingly he makes no comment at all about this in his diaries of the time, although he often wrote several pages about a sermon he had heard,[215] or wrote about the morality of nude sculptures at the Crystal Palace Exhibition.[216] In his letters to JD Hooker he writes candidly of his opinions; 'Of course you are in hot water with the clerical world, & will – or ought – to be denounced as a most degenerate descendant of the judicious Hooker, misled by the enchantments of the modern Merlin of Science, Darwin. Though not a convert to Darwin's theory altogether, I value of course, most

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[213] DC 172, 197.

[214] H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.112.

[215] It can be seen from Archer's diaries that he attended church every Sunday, at times 2 or even 3 times. He often writes in great detail of the sermon. An example of this is on 13 June 1857 where he writes more than 530 words on a sermon by Mr Sturgeon at Surrey Hills Music Hall.

[216] Archer diary dated 4 June 1857. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

highly his inscrutable researches into the true nature of plants, & his admirable deductions therefrom.[sic]".

In the same letter Archer makes reference to orchids being pollinated by insects – he had obviously read Darwin's book on the fertilisation of orchids by insects.[217] In fact Archer goes on to set up experiments with ants to see if they can pollinate some orchids. In September 1860 he wrote in his diary: "24th Collected some ants to make experiment on the orchid (Pt long) with them. Examining & drawing parts of *Pterostylis longifolia.* 25th Made experiment with the small ants on Pt long. They were rather too large, but one, after being thrown into the inner part of the flower by the elastic spring of the labellum, after many struggles crawled out with two masses of pollen (pollinia) adhering to the first joint of one of his forelegs, as I had anticipated!"[218]

Archer writes in his diary in October 1858: "Meeting of Linnean Society. Wallace's admirable paper on the geographical distribution of plants."[219] He seems, though, to have been interested in reading about the new ideas ordering the following books; Huxley's *Evidences of Man's Place in Nature*, Lyell's *Ambiguity of Man*, and Darwin's *The Ascent of Man.*[220] In 1870 he writes to JD Hooker that Huxley and he are now corresponding.[221]

Herbarium

Archer collected what could arguably be considered the most comprehensive herbarium of Tasmanian plants, outside of Kew itself, of its time, and although this herbarium has since been split up, this should still place him in a position to be recognised as one of the important early botanical collectors in Tasmanian history, alongside his contemporaries Gunn, Lawrence, Oldfield, Milligan and Backhouse.

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[217] Archer letter to Hooker held at Kew dated 2nd December 1868, DC172, 2–6.
[218] Archer diary 24th & 25th September 1860. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[219] Archer diary 4th November 1859. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[220] Archer's diary dated May 22nd 1861: "Wrote to HG Bohn. Ordered *People's Edition of Waverley Novels*, Huxley's *Evidences of Man's Place in Nature*, Lyell's *Ambiguity of Man* and all his vols. published since vol iii of Bancroft's *History of the American Revolution.*" 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.
[221] Archer letter to Hooker dated 24 February 1870 – Letter Journal A7/1.

Archer made his herbarium available to other researchers; in England JD Hooker (orchids and ferns), Lindley (orchids), Mitten (bryophytes and mosses), and Berkley (fungi); and, in Australia, Mueller.

A herbarium is a collection of preserved plant samples (Fig. 11) housed according to taxonomic group. They are concerned primarily with scientific research and documenting the immense diversity of plant and fungal life.

Sir William Hooker and his son Joseph, through their travels and associations with botanical societies throughout the world established a network of collectors in the early 1820s who sent herbarium specimens (and later living specimens in Wardian Cases) to them in Glasgow and later [from 1820] to the Royal Gardens at Kew, helping them build what was in the mid 1880s the greatest herbarium then in existence.[222]

Establishing that herbarium enabled Sir William Hooker to change the direction of Kew Gardens from a fundamentally economic and ornamental garden, to the centre of scientific research. Drayton writes: "In 1857 Hooker began to show the value of his garden by listing the number of scientists who have 'taken up their abode at Kew, for weeks together', including Weddell working on urticaceae, Howard on the cinchonas, Lindley on orchids, Henslow for the diagrams required by the President of the Board of Trade for the use of national schools, and Seeman on the South Pacific flora'. In his omnibus report of 1859, Sir William Hooker boasted that Kew had 'the most extensive and practically useful Herbarium and library ever formed and noted the important work 'more or less completely carried out by means of the ready access granted to the collections' during the preceding six years including Joseph Hooker's floras of New Zealand and Tasmania [it must not be forgotten that JD Hooker also relied on Archer's

[222] R. Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World*, 2000, p.199.

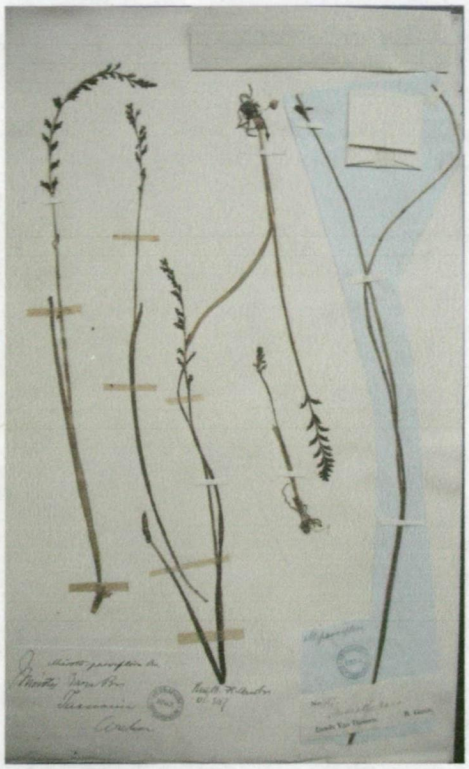

Figure 11: Example of Archer's herbarium specimen held at Kew.

herbarium]'.[223] It was into this atmosphere that Archer was invited in 1857 as one of these scientists to stay with Sir William while working at Kew.[224] Drayton goes on to quote Sir William Hooker when he says; "In his estimates for 1861, Sir William Hooker claimed that there was scarcely a botanical work of any repute published 'on the continent of Europe, America, or in England, that is not largely indebted to Kew for much of its value."[225]

JD Hooker also regarded a herbarium as perhaps the most important asset of a botanist. Jim Endersby writes in his article about JD Hooker and the collectors Gunn and the New Zealander Colenso "Hooker evidently thought that his herbarium [he had access to

[223] R. Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World*, 2000, p.199.

[224] Archer wrote in his diary on 7 April 1857: "Took up my quarters by invitation at Sir William Hooker's." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[225] R. Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World*, 2000, p.199.

the vast Kew Herbarium] gave him the prerogative to name plants that his colonial correspondent lacked."[226]

The importance of the personal herbarium to early botanists cannot be overestimated, and for the Hookers, Sir William and JD Joseph, to give Archer free rein at Kew to add to his herbarium gives an indication of the esteem with which the Hookers must have regarded Archer and his abilities as a botanist.[227] JD Hooker had of course already accessed Archer's existing herbarium for his work on *Flora Tasmaniae*.

Archer had been assembling his herbarium in Tasmania for many years. As early as 1848, he was immersed in collecting for what would eventually become an extensive herbarium. In his diary dating from the first of January 1848, Archer writes of working on his herbarium: he writes of collecting several families of plants, including grasses, and "arranged and fixed upwards of 100 specimens of plants on brown paper".[228] In February of the same year Archer notes in his diary, a collecting expedition along the Meander River where he again collected and arranged over 100 specimens.[229] In 1854 Archer was still collecting and was sending material to JD Hooker at Kew. He writes:

> 1854 – 11th Feb – At home. Pressed afresh the plants collected during my excursion.
> 21st – Arranging mosses & *Lepidium* & making a collection for Dr Hooker.

Although Archer had collected such a comprehensive herbarium he is not considered to be a historically significant collector in Tasmania,[230] always overshadowed by Gunn, Lawrence, Milligan, Oldfield and others – in fact there is no mention of him as a collector on the Tasmanian Herbarium website[231] – this is, in the main I feel, most probably due to the poor standard of his work as represented by the specimens that

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[226] J. Endersby, "From having no herbarium. Local knowledge versus metropolitan expertise: Joseph Hooker's Australasian correspondence with William Colenso and Ronald Gunn". *Pacific Science* (2001) University of Hawaii, p343.

[227] Archer wrote in his diary of spending many days going through the collections at Kew picking specimens to add to his herbarium before returning to Tasmania. This is discussed in detail later in this chapter.

[228] Archer diary 1 January 1848. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[229] Archer diary 23 February 1848. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[230] Discussion with A. Buchanan, Tasmanian Herbarium.

[231] Tasmanian Museum and Art Gallery 2005, viewed 15 July, 2006, *Tasmanian Herbarium; A Brief History*, <http://www.tmag.tas.gov.au/Herbarium/Herbarium3.htm>.

remain at the Tasmanian Herbarium and in New South Wales. These specimens are, on the whole, his duplicates or very early specimens – not a part of his main herbarium – and do not give a genuine picture of his skills as a botanist and collector.

The specimens in the Tasmanian Herbarium and in NSW are incorrectly attributed to WH Archer,[232] a confusion that occurred when the specimens were remounted after being sent to NSW in the early 1900s (Fig. 12). However, the handwriting on the specimens is clearly that of William Archer, while the writing on the labels is not. The handwriting can easily be compared with that of Archer's diaries and letters to confirm that these herbarium specimens are his. There are no records in the *Royal Society Papers and Proceedings* to indicate when the specimens were sent to NSW, and Karen Wilson of the Royal Botanic Gardens Sydney writes, "Our specimen database shows that there are 950 specimens databased as coming from William or William H Archer...I have not been able to find any information about exactly when the WH Archer specimens came to us in any of the publications in our library. The annual reports during that period that JH Maiden was director [of the Royal Botanic Gardens Sydney] are very detailed as to receipt of specimens but I couldn't find an entry for Archer – there are several for Leonard Rodway [Honorary Government Botanist, Honorary Curator of the Tasmanian Museum Herbarium] having sent usually smallish numbers of specimens variously as gifts or exchange."[233]

[232] There are two possible candidates for W H Archer:
William Henry Archer (1825–1909) William Henry Archer was born in England on 14th November 1825. He arrived in Victoria at the end of 1852, and was an amateur naturalist. W H Archer was a corresponding member, address given as Melbourne, of the Royal Society of Tasmania for many years – many at the same time as William Archer (Royal Society of Tasmania P&P 1867–69).
William Henry Davies Archer (1836–1928) William Henry Davies Archer was born in Longford, Tasmania on 13 November 1836, the son of William Archer of Brickendon, William Archer's uncle. WHD Archer was a member of the Tasmanian Parliament, as was William Archer. WHD Archer was a member of the Royal Society of Tasmania in the early 1900s, around the time that the herbarium specimens were sent to New South Wales (Royal Society of Tasmania P&P 1902–1912).

[233] Extract from e-mail sent 4/8/2006.

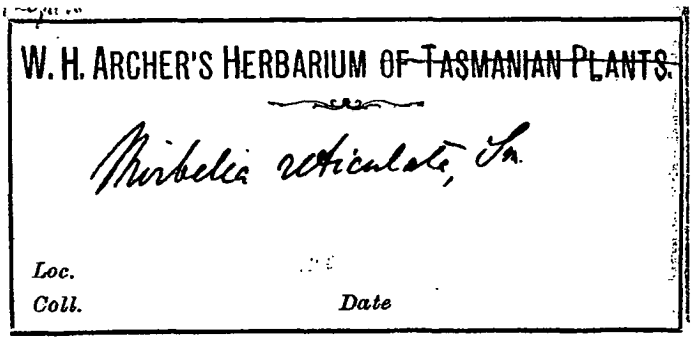

Figure 12: Example of incorrectly named herbarium label.

One of the criticisms of Archer's collection housed at the Tasmanian Herbarium and in NSW, is of the lack of information contained with the specimens, for example location, dates etc,[234] however, as Archer was sending specimens to Hooker and Lindley, it would seem reasonable that they would have informed him of the data required for the specimens to be of scientific value. So it would also be certain that from as early as at least 1849[235] Archer's herbarium specimens would be of a standard, and contain all the relevant data, to make them a valuable scientific research tool. An example of the high standard of Archer's herbarium is its use by Mitten in his paper on mosses presented to the Linnean Society mentioned above. Mitten would not have been able to use the collection for this type of work had it not been because of excellent quality with all relevant information. Mitten never travelled to Tasmania and relied solely on Archer's specimens for his paper.

In early 1855, as Archer was preparing to go to England, Dr William Harvey[236] of the Dublin University visited Tasmania on a botanical collecting expedition.[237] Archer

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[234] Conversation with A Buchanan, Tasmanian Herbarium.

[235] Letter from Archer to Gunn. (State Archives Office of Tasmania– Gunn's letters) Cheshunt Dec 1849: "My dear Sir, I think I shall forward descriptions & specimens of what I consider new to Professor Lindley, asking him to communicate them to Dr Hooker should he not have them, and to cancel my names should he possess them. I do not wish to embarrass our delightful science, but would rather do my utmost to relieve it from embarrassment, and the confusion caused by ill written & insufficient descriptions". Archer's comments in this letter may indicate that, although he is working at defining and naming species, he is not as confident of his scientific knowledge as he is later when he goes to England and works with Hooker.

[236] Dr William Henry Harvey (1811–66), FRS, Professor of Botany in Dublin. Hooker notes Harvey as an early botanical collector in the Preface to *Flora Tasmaniae* p.cxxv.

[237] J. Hooker, *Flora Tasmaniae*, 1843–60 [Hooker writes 1854, as visiting Australia, however, Archer's diaries give the date of visiting Tasmania as 1855], p.cxxv.

knew of Harvey's mission to Australia through their mutual friend JD Hooker, and had invited him to stay at Cheshunt while he was in Tasmania. Harvey was at Cheshunt for ten days collecting with Archer.[238] There are a few short references to their plant collecting expeditions in Archer's diary,[239] however, Harvey wrote extensively to JD Hooker, Sir W Hooker, his sister and his niece, of his time spent botanising with Archer at Cheshunt.[240] Archer would also certainly have known the relevant details required for herbarium specimens from the time spent with Harvey.

After Archer arrived in England he notes in his diary that his herbarium has been sent to Kew:

> Shortly after I landed in London my cabinets of specimens were taken to Kew, and lodged in the "King of Hanover's" house, where the Hookerian herbarium is kept, and I had access to them while in London, taking them to Blendworth, when I went there to reside.[241]

In his letter to the Royal Society in 1875, JD Hooker describes the cabinets, which appear to be quite substantial, "...and arranged in six cabinets. These are all packed in tin, and then again in wooden cases (about 3ft 6in x 2ft x 1ft 6in)".[242]

After his work with JD Hooker on *Flora Tasmaniae*, Archer had access to the herbarium at Kew to add to, and complete, his own herbarium to take back to Tasmania. His diary records of this time indicate that Archer spent some considerable time

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[238] S. Ducker (ed.), *The Contented Botanist: Letters of WH Harvey about Australia and the Pacific*, 1988, p.190–195.

[239] Of Harvey's stay at Cheshunt Archer writes: "15th Drove the gig to Deloraine & brought here Dr WH Harvey, the celebrated Algologist, who has come to Tasmania to collect & study the algae. Walked to Owen's Creek, & gathered a few mosses." 16th : "Botanised with Dr H. in Tent Creek." 17th: "Rode with Dr H. to Celery-topped Pines, and the plain near Garret's Sugar-loaf where we found a few plants in flower among the Cryptostylis longifolia." etc. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[240] It seems to have been a very pleasant experience, and Harvey writes to his niece; "In the same evening I took my leave of my kind host, who goes to England for his health [this is the only reference to Archer's health as the reason for going to England I have found. Archer himself never mentions this although he later writes of his ill-health when back in Tasmania] next month & intends remaining some years in England for the education of his children. There I hope to see him & continue the acquaintance – He is most kind as well as well informed & agreeable person, & has a large property. He often reminds me both in manner & in traits of character of our friend Henry Christie." S. Ducker, (ed.), *The Contented Botanist: Letters of WH Harvey about Australia and the Pacific*, 1988, p.195–96.

[241] Archer diary. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[242] RSA/E/12.

compiling what would arguably become the most comprehensive herbarium in Tasmania of its native flora.[243] This herbarium was compiled using his experience in working with JD Hooker and others to arrange and name specimens to match the latest scientific knowledge – *Flora Tasmaniae*. He also had JD Hooker's assistance in assembling this collection. Archer brought back with him to Tasmania a carefully prepared and extensive herbarium, gleaned not only from his own collecting, but also from the full resources of the Kew Herbarium.

Archer continued his interest in botany and his herbarium after his return to Tasmania. He corresponded with Mueller in Victoria, and sent herbarium specimens to him on many occasions, as he did to Gunn, Dr Agnew and others.[244] He also continued his association with the Hookers, sending specimens [seeds] to England till at least March 1872.[245] Archer seems also to be the only one of Kew's Tasmanian collectors to maintain an interest in botany and collecting. In a letter to Sir William Hooker dated 21 March 1865 Archer wrote:

> There are now no collectors in Tasmania. Gunn is absorbed in his official duties...and there is nobody else in the country." and on writing about sending materials to Mueller, he writes on 29 March 1869: "...but Gunn, in a letter to me...and tells me he has not opened his collection for 15 years, & doesn't know what he has left free from the ravages of insects.[246]

After Archer's death, his herbarium was consigned to Robert Brook's & Co (his agent in London for the sale of wool, etc) to sell as part of his estate as stated in his Will.[247] That Archer would make special mention of the herbarium in his Will and have it sent to England to be auctioned as part of his estate, again indicates the value of the collection. Robert Brook's & Co approached JD Hooker to write to the Tasmanian

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[243] Archer writes in his diary on 6 September 1859: "To Kew. Selecting from the Herb. Hook. specimens of Tasmanian plants." And on the 7th: "Herbarium. Going carefully through my specimens, & selecting for the Supplement to the Flora of Tasmania." Throughout the rest of September and October Archer spent many days going through the herbarium at Kew and his own herbarium ensuring he had a comprehensive collection. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[244] Archer's letter diaries of 1867–71 make frequent notes on sending specimens to Mueller. Royal Society of Tasmania, A7/1.

[245] RSA 7/1.

[246] Letters from Archer to the Hookers held at Kew. DC75 1–6.

[247] NS 195/1/1 (AD 960/9–10).

Government and Royal Society of Tasmania to testify as to the value of the herbarium. JD Hooker wrote to the Tasmanian Government of the herbarium:

> I was requested the other day by Messers Brooks & Co, to inspect the botanical collection of my poor friend the late Mr Archer, which have been sent home to be sold. I found them, and the Tasmanian plants especially, in splendid order and condition, all accurately named and arranged in six cabinets. These are all packed in tin, and then again in wooden cases. The specimens most beautifully selected and placed on sheets of white paper of uniform size, and then again in covers. It immediately struck me that it would be very important to secure such a collection for the Tasmanian Museum or Botanic Garden; or both, for there are specimens enough of each kind of plants to furnish two Institutions.[248]

In Tasmania, the Reverend W Spicer[249] tried in vain to have the collection remain in the colony, writing to the Royal Society of Tasmania in 1876, "Of its intrinsic worth, there can be no question, as we have Dr Hooker's guarantee for that. It is impossible to speak too highly of its value to us, both from a scientific and an economic point of view. The Herbarium has formed under such peculiarly favourable circumstances (having been supervised by Hooker and Archer, and certainly collated with the unrivalled Herbarium at Kew) that in securing it, we are placing ourselves in possession of a collection of extraordinary value to the man of science or the teacher". Jan 5 1876.[250]

Later Spicer wrote to Mueller of the loss of the Herbarium:

> We have missed getting a good herbarium – W Archer's. It was sent to England – and Dr Hooker advised us we could have it for 60 Pounds. However the government has refused the money, and the Society cannot afford to [buy] it, it will be sold in England. I am sorry because it was so purely Tasmanian.[251]

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[248] Extract from a letter received by His Excellency the Governor from JD Hooker, Esquire, Director of the Royal Gardens, Kew. 23/12/1875, RSA/E/12

[249] Spicer, Reverend William Web (1820–1879). Naturalist and botanist; spent four years in Tasmania from 1874. He was a member of the Royal Society of Tasmania and worked on Gunn's herbarium which was donated to the Royal Society in 1876.

[250] RSA/H/12.

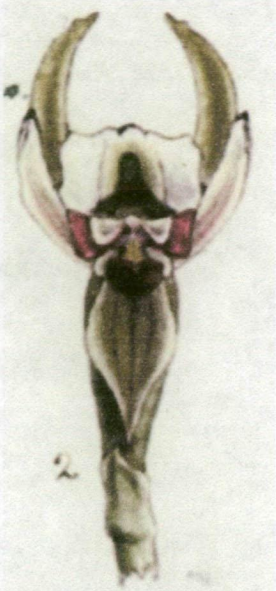
[251] A. Rozefelds, "A four-year Antipodean odyssey: the Reverend William Webb Spicer M.A. in Tasmania", 1874–1878, *Kanunnah*, 1:33–46.

Figure 13: Example of Archer's herbarium specimen held at Kew.

Neither the Tasmanian Government nor the Royal Society purchased Archer's herbarium and it remained in London. JD Hooker evidently purchased it for the Royal Gardens, Kew and it was eventually absorbed into their collection.[252] (Fig. 13).

[252] Brummitt, R, Mill, R, Farjon, A. "The significance of 'it' in the nomenclature of three Tasmanian conifers: *Microcachrys tetragona* and *Microstrobos niphilus* (*Podocarpaceae*), and *Diselma archeri* (*Cupessaceae*)", *TAXON*, May 2004, p530.

CHAPTER 3 – ART
BOTANICAL ILLUSTRATION



Perhaps more than any other discipline botany has been dependant on illustrations for its development. The illustration stands as a substitute for the thing itself, which is ephemeral, fragile, and often unable to survive removal from its original environment.[253]

Archer's drawings held by the Tasmanian Museum and Art Gallery (TMAG) are botanical illustrations—that is, 'art in the service of science'[254]—they were created to be an aid to the scientific description of the specimens he was discovering and not solely as aesthetically pleasing works of art, although his completed watercolours are certainly that.

It is known that Archer illustrated the orchid section of Hooker's *Flora Tasmaniae*, but on comparison of the two sets of works, it became obvious that the TMAG illustrations were not used as the originals for many of the plates in the *Flora Tasmaniae* publication. Only 27 of TMAG's 33 drawings may have been used, as a whole or in part, as the basis for *Flora Tasmaniae* plates. As all but one of the plates name Archer as sole or joint artist, there must have been many more of Archer's orchid illustrations in existence when the book was printed. Where were the other originals for the *Flora Tasmaniae* plates?

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[253] G. Saunders, *Picturing Plants: An Analytical History of Botanical Illustrations*, 1995, p.7.
[254] Z. Jastrzebski, *Scientific Illustration: A Guide for the Beginning Artist*, 1985, p.5.

Archer had written in his diary of his anger at seeing Fitch's name as also delineating the orchid plates in *Flora Tasmaniae*, as in Archer's opinion, Fitch had made only a few unnecessary changes to the originals in the published plates. He wrote that he intended to present a number of his original drawings to the Linnean Society of London so it could be seen who was actually responsible for the *Flora Tasmaniae* illustrations.[255]

The Linnean Society was contacted and it was discovered they held a folio of Archer's orchid illustrations. Were these the originals? These illustrations were in a bound book and it was not possible to obtain photocopies of them, and the cost of photographing the folio was to prove to be prohibitive. At this point Susan Rothwell,[256] a relative of Archer's, very kindly donated the funds that enabled the Linnean Society illustrations to be professionally photographed.[257]

For ease of discussion in this chapter, I will usually refer to the orchids by the names used by Archer and JD Hooker.

What is Botanical Illustration?

> *Scientific illustration is an art in the service of science. It is a complex compound of information, craftsmanship, and cooperation between the artist and the scientist.*[258]

Botanical illustration is a specialised art form—not to be confused with flower (or botanical) painting. In botanical painting plants are often represented in enough detail to be able to distinguish a particular species, however the sole purpose of these paintings is not to describe that plant taxonomically, the paintings are essentially meant to be

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[255] On August 24, 1857 Archer wrote: "Mr Fitch is lithographing the drawings of orchids, and adds his name to mine as delineating them, somewhat unfairly I think, for at the most he only adds a flower or two, and an unnecessary drawing of a dissection, excepting in a very few cases. However, I told Dr Hooker that I did not care much about it so that the drawings were well done, & the orchids well illustrated. The drawings which I shall present to the Linnean Society will show what I have done in the matter." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[256] Susan Rothwell is related to the Archer Family. She is the author of The Biography of William Archer (1820–74) The First Australian Born Architect, unpublished dissertation, University of Sydney, 1971.

[257] These photographs are now held by the Tasmanian Museum and Art Gallery.

[258] Z. Jastrzebski, *Scientific Illustration: A Guide for the Beginning Artist*, 1985, p.5.

aesthetically pleasing works of art. Although photography of plants is now often used in conjunction with illustration, it cannot ever completely replace the need for a drawing to describe a plant.

The style or manner in which specimens are depicted has changed over the centuries; from the painting of an idealised plant, that is, one that is a combination of several specimens, including all the different stages of flowering and fruiting that would never occur simultaneously in nature, but are essential in describing a plant (examples of style can be seen in the work of Ehret, Redouté and others).

Today the favoured style tends, on the whole, to be a representation of one individual specimen with all its faults, disease, or damage at one moment in time. There are exceptions to this of course; a notable one being the work of Celia Rosser in her magnificent illustrations of Banksias (Fig.14).

Figure 14: Celia Rosser illustration of Banksia saxicola.

One convention that is still considered to be more or less standard in botanical illustration is the de-contextualisation or isolation of the specimen on a blank background (Fig. 15), with no indication of habitat, and indeed, this is how Archer illustrated his orchids, and how his illustrations are depicted in *Flora Tasmaniae*.

Figure 15: Example of illustrations in Flora Tasmaniae *showing specimen on a blank background.*

Early Botanical Illustrators

In the past botany, almost certainly more than any other science, has found it necessary to use illustration in describing its work, and still does today, aided by photography, but still often requiring the services of a botanical illustrator. This said though, the very early books on botany often did not contain illustrations at all, and indeed, the *Flora Tasmaniae* does not include an illustration of every plant described, in part because of the prohibitive cost of producing these – especially hand coloured – works,[259] but it was the discovery of the exotic plants of the voyages of exploration, that led to an increasing necessity to describe these new plants pictorially and to the professional botanical illustrator.

Saunders in *Picturing Plants* states; "The act of collecting was part of the commercial exchange with, and exploration [and exploitation] of, other cultures. It is not surprising therefore that the collection, study and depiction of plants and the 16, 17, & 18th

[259] Of the 74 species of orchids described in *Flora Tasmaniae* only 56 are illustrated.

centuries was focused on Holland, Germany, northern France, and England – the great centres of trade and colonial power".[260]

At the time Archer was working on his orchid illustrations, there were no professional illustrators working in Tasmania. He does not write in his diaries of seeing original work by any other artist, save that of Louisa Meredith[261] in 1860 whose work would more accurately be described as botanical. The list below includes, but is not inclusive, some of the more influential botanical illustrators whose work may have influenced Archer:

- Sydenham Edwards (1768–1819), William Kilburn (1745–1818) and James Sowerby (1787–1871) – Edwards, Kilburn and Sowerby were illustrators for Curtis's *Botanical Magazine* in the early 1800s.[262] Walter Hood Fitch (1817–1892) His work began to be published in 1834 in *Curtis's Botanical Magazine.* It is known from Archer's diaries that he had copies of this magazine sent from England.
- Sir William Jackson Hooker (1785–1865) – Hooker had some of his illustrations published in Curtis's *Botanical Magazine.*
- Robert Greville (1794–1866) – Greville was an illustrator for William Hooker's *Icones Filicum,* which Archer mentions seeing while visiting Gunn.

The Early Illustrators of Australian and Tasmanian Plants

The French scientific expeditions to Tasmania were among the first to include collections from which illustrations were produced. On board the d'Entrecastreaux's expedition were naturalists Jacques Julien Houtou de Labillardière (1755-1834), Louis Ventenat, Louis-Auguste Deschamps and Claude-Antoine-Gaspard Riche and the artist Piron. They spent April 1792 and February 1793 in the region of Bruny Island and Recherche Bay.

While there Labillardière made several valuable collections. He wrote:

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[260] G. Saunders, *Picturing Plants: An Analytical History of Botanical Illustration,* 1995, p.49.

[261] Louisa Ann (Twanley) Meredith came to Australia in 1839 and settled in Tasmania. Meredith was a poet and illustrated and published her own works. Archer met Louisa Meredith while he was Secretary of the Royal Society. He writes in his diary of seeing her illustrations.

[262] H. Hewson, *Australia: 300 Years of Botanical Illustration,* 1999, p.74.

I discovered an evergreen tree, which has its nut situated, like that of acahon, upon a fleshy receptacle much larger than itself. I therefore named this new genus *exocarpos* (wild cherry or Cherry Ballart). It has hermaphrodite flowers upon the same peduncle with others which are distinctly male and female.

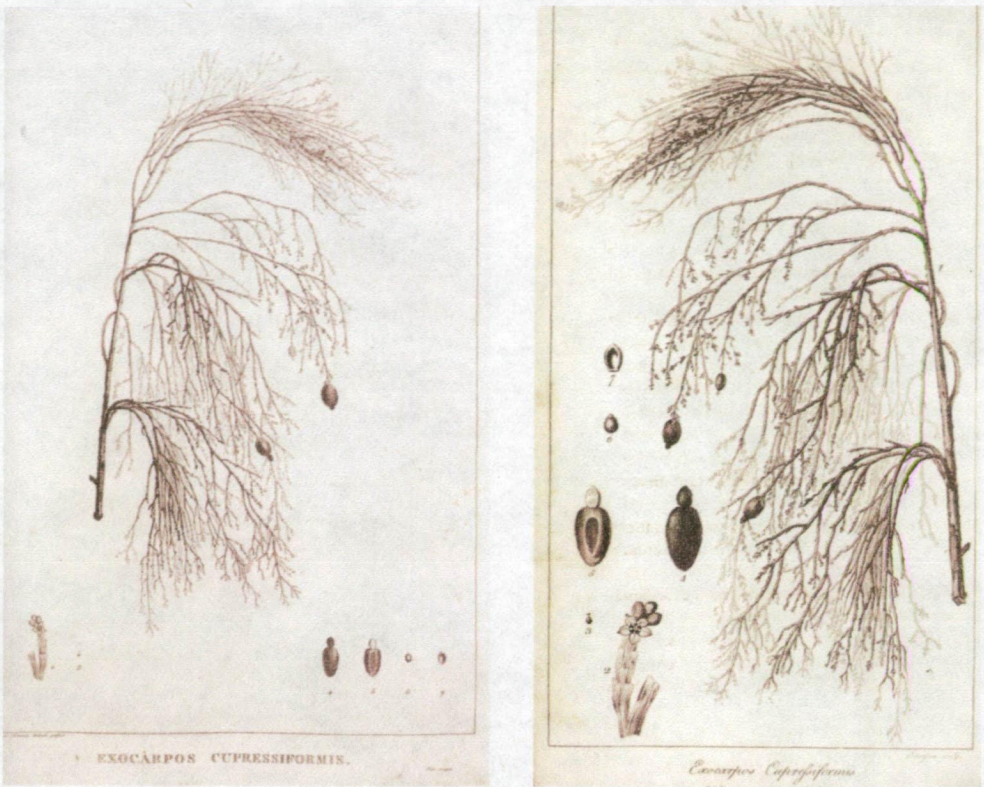

Figure 16: Exocarpus cupressiformis *Labill.*

The engraving above first appeared in Labillardiére's, *Relation du voyage a la recherche de La Perouse* published in 1799 (Fig. 16). The illustrations in this publication are uncoloured copper engravings from drawings by Piron, Redouté and Audebert.

In 1804–1806 Labillardière published *Novae Hollandiae Plantarum Specium*, which also contained engravings based on the drawings by Piron.[263]

[263] Little is known of the artist Piron – not his first name, dates of birth or death. H. Hewson, in *Australia: 300 Years of Botanical Illustration* names him Nicolas. However there is now some debate as to this being his name. Edward Duyker, makes the claim that he is one of two brothers; either Jean Hubert Piron (1767), or Jean Joseph Piron (1771). As Piron joined d'Entrecastreaux's expedition at the recommendation of Redouté – who was from the same birthplace in Belgium – it seems likely he

Although he never travelled to Australia, Pierre-Joseph Redouté (1759–1840) is important in the history of the botanical illustration of Australian plants. The first Redouté drawing of an Australian plant is of *Eucalyptus obliqua* in *Sertum Anglicum,* together with the original description of *Eucalyptus* based on the collection made in Tasmania on Cook's third voyage to Australia. He also worked on the botanical drawings of Piron from the d'Entrecastreaux expedition.

The first English expedition to reach the eastern coast of Australia was that of Captain James Cook in 1770. On board the *Endeavour* were scientists and artists; Joseph Banks and Daniel Solander (who had trained with Linnaeus), and artists Sydney Parkinson, Alexander Buchan and naturalist Herman Sporing. Cook did not visit Tasmania on the voyage. On his third visit to Australia in 1777, he again landed at Adventure Bay. It was on this visit that William Anderson and David Nelson collected a specimen of *Eucalyptus obliqua* which was later to become the type of the genus *Eucalyptus*.

Although Ferdinand Bauer (1760–1826), was born in Austria and did not visit Tasmania, I have included him in the English-artists as he worked with British botanists and explorers – Brown and Flinders; and at Kew. His brother Franz was resident artist at Kew for many years. Bauer was JD Hooker's favourite illustrator, and Archer was shown Bauer's illustrations when touring the British Museum of with Robert Brown.

Probably the best known – certainly the most prolific – English botanical illustrator was Walter Hood Fitch (1817–1892) of Glasgow. He was employed by Sir William Hooker, and later his son JD Hooker, as a botanical artist (around 1833), and his work began to be published in 1834 in *Curtis's Botanical Magazine.* Fitch worked on *Flora Tasmaniae* with Archer and JD Hooker.

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could have been one of these brothers. Piron did not return to France after the capture and imprisonment of the expeditioners in Surabaya in what is now Indonesia. It is known he was eventually released, and moved to Manilla in the Phillipines, but then no further records of his movements have been found. *In Search of Jean Piron*, National Library of Australia News March 2006 Vol. xvi Number 6, National Library of Australia, viewed 26 April, 2006, <http://www.nla.gov.au/pub/nlanews/2006/mar06/article2.html>.

Many botanists also illustrated their own research at various times, for example William Hooker illustrated his own work (Fig. 17) before he employed Fitch, and encouraged his botanical students to learn drafting skills. JD Hooker also illustrated some of his work, drawing his specimens while on his expeditions. He had seen the work of the Bauers at Kew and greatly admired the work of Ferdinand Bauer. John Lindley was another scientist who illustrated some of his work. Bauer and Lindley were noted as specialists in orchid illustration.

Figure 17: Illustration of Stylidium lavicifolium *A.Rich. by William Hooker.*

William Archer's Early Work

Table 2 in Appendix 7 is the full list of items by Archer held by the Tasmanian Museum and Art Gallery.[264]

[264] List supplied by Tasmanian Museum and Art Gallery.
* Photographs may not be by W Archer.

Archer's diary mentions his sketching on a number of occasions and some of these references may be for the illustrations now held by the TMAG: For example on Feb 26, 1855, Archer wrote: " I made a sketch of the 'Sugarloaf' from the opposite side of the river & rode home by the Falls Run." This could possibly be a reference to AG7720.8, *Landscape surrounding Woolmers.*

Although there were several botanical collectors sending materials to Kew from Tasmania, Archer was the only one known to also illustrate his collections. Why was this? As asserted in the previous chapter, I believe Archer thought of himself as a botanist, and not merely as a collector of specimens for others. It is known from his diaries and letters that he was establishing a reasonably comprehensive scientific library,[265] and Archer knew from this library that the scientists he was corresponding with – the Hookers and Lindley – still, or had in the past, illustrated their own work (Fig. 18).

In one of his early letters to Sir William Hooker dated 27 July 1854, Archer wrote: "I want an elementary work also on Fungi of all sorts, so as to learn their structure sufficiently to enable me to draw them – for dried, or pickled specimens are troublesome, inconvenient & unsatisfactory."[266] Archer realised that he needed to be able to draw the specimens he was collecting to enable him to work on them, and that in some cases the scientists back in England needed more than dried specimens for their work. He also realised that to be able to draw the plants properly he needed to understand their morphology.

This early mention of drawing fungi is important in respect of the fungi illustrations contained in *Flora Tasmaniae.* However, it was from as early as 1847 that Archer was

[265] In a letter to Sir William Hooker dated July 27 1854, Archer writes: "...I have been trying to obtain a copy of your Muscologia Brittanica in London, & Mr Bohn, my book-man has been quite unsuccessful. Do me the favour to put him in the way of procuring a copy for me, and also all the Nos of your Kew Garden Misc'y, & Icons Plantar'm, which works he may continue to send me with other periodical works already ordered of him." DC74, 8.

[266] Letters held at Kew DC74, 8.

interested in, and sketching, fungi. He wrote in his diary on June 29th of that year: "Picked up and made a drawing of a curious fungus."[267]

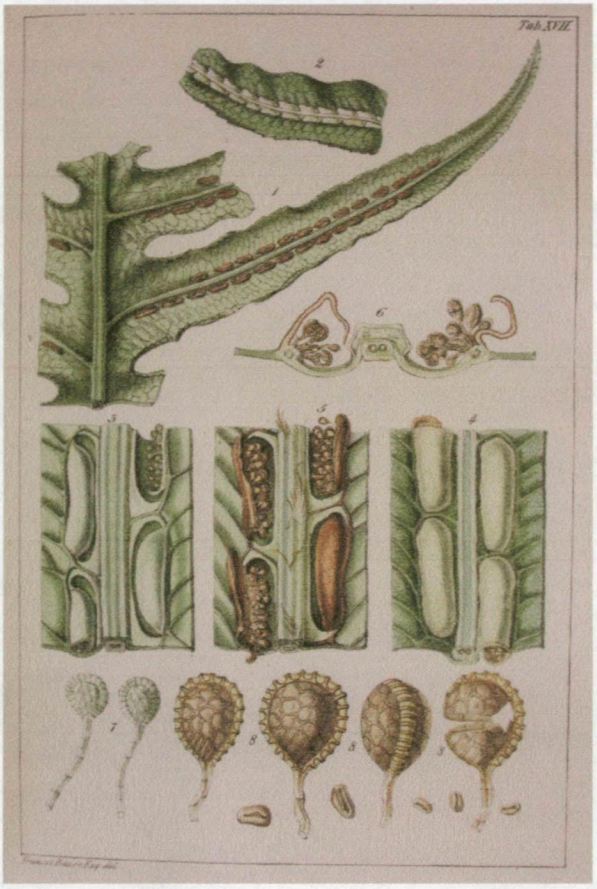

Figure 18: William Hooker illustration.

While Archer is known for his orchid illustrations, he often drew whatever he was researching, and this covered a wide variety of subjects. The Royal Society of Tasmania's *Papers and Proceedings* contain several references to his activities:

> Cheshunt, 10th July, 1852,
> My Dear Sir, As I cannot get back to Hobart Town in time for the monthly meeting of the Royal Society, I send you sketches of a few of the dried coniferae. What the other forms are I know not, but they are extremely small. (I am sorry that I have not measured them); some, however, are the like on species of *'Nowicula'*. I will tell you more about them when I reach Hobart Town, and place them under my highest powers.

[267] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

And:

> 8/9/52: The following note, read from Mr W Archer, MLC, accompanying drawings of microscopic organisms observed in naturally formed "brown paper", obtained near Falmouth, on the East Coast.

And later:

> 14/9/53: Mr Archer submitted for examination, and explained at some length, a series of drawings made by him of certain galls or tuberosities, with turret-like processes; upon the twigs of the *Casuarina quadrivalvis* laid before the Society a few months since by Dr Officer, and of the insect contained, and promised to supply a description in writing for the next monthly meeting.

Archer's diaries contain many references to drawings, other than of orchids.

> 1848 Jan 4th I examined and made sketches of several grasses
> 1848 Jan 7th Collected some fine specimens of *Antustria australis* [≡*Sarcochilus*] in flower, and made a drawing of one spike.
> 1853 June 25th Busy at seaweeds: did a little drawing in the afternoon.

Unfortunately none of these drawings are known to exist today.

Orchid drawings

There are several entries in Archer's diary in August of 1853 relating to his orchid drawings. On August 4th he writes, "Rainy weather...and arranging drawings of orchids for sending to England", the 6th, "Preparing orchid drawings for sending to England", and on the 8th, "Finished fixing drawings on the 6th. Today I drew *Eriochilus autumnalis*[268] leaf & bulbs – and examined other drawings of the orchids together with specimens of the same." And finally on the 12th he writes, "Rainy weather. Busy in the house with my drawings of orchids, preparing them for sending to England". There is

[268] *Ericochilus cucullatus* (Labill.) Rchb.f., Beitr. There is an example of *E. cucullatus* showing the leaf and bulbs in the Linnean Society illustrations, dated Aug 8:53 making it most probable that this is the illustration Archer wrote of in his diary.

no record of which illustrations were sent to England and which he took with him when he went to England.

Archer spent many years working on his orchid drawings and presented them on occasion to the Royal Society of Tasmania in 1854. The *Papers and Proceedings* of that year records: "A series of carefully executed coloured drawings of Tasmanian orchids, with the organs of fructification, dissected and delineated with great nicety, by William Archer Esq. MLC were exhibited to the meeting, and elicited general admiration".[269]

The diary references relating to illustrations continue throughout the years, even after his return from England. For example, in 1863 Archer writes: "Oct 2nd Found some specimens of *Corysanthes* & 1 sp of *Pterostylis longifolia*[270] in flower on the hill. Oct 3rd 'Busy drawing column etc of *Corysanthes fimbriata* Br.'"[271]

The Tasmanian Museum and Art Gallery Illustrations

Archer became fascinated with the orchids early in his interest in botany and collecting, and apart from the fungi in *Flora Tasmaniae*, they are the only plants featured in any of his drawings that are still known to exist.

Archer's diary entries give no indication to the methods he used in completing his illustrations; merely that he was "drawing orchids".[272] Archer's use of a microscope, and the inclusion of dissections in his work, is another indication that Archer considered his work to be botanical illustration, and not merely drawings of the orchids he collected. While Archer noted on his illustrations and in his diaries that he used a microscope, he never describes or names the type he used.

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[269] Royal Society of Tasmania *Papers and Proceedings*, 1854, p.324–5.

[270] Current name either *Bunochilus melagrammus* (D.L.Jones) D.L.Jones & M.A. Clem., *Austral. Orchid Res. 4*: 66 (2002) or *B. williamsonii* (D.L.Jones) D.L.Jones & M.A. Clem., *Austral. Orchid Res. 4*: 66 (2002), A Buchanan, 2005, p.68.

[271] Current name *Corybas fimbriatus* R. Br., Prod 328 (1810), A. Buchanan 2005, p.70.

[272] For example, in his diary dated January 31st 1855, Archer wrote: "Drawing orchids, etc.", on February 20th he wrote: "Writing letters and sketching etc." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

Archer, certainly in most of his illustrations drew only one specific plant, although he may have used several for the dissections as he refers to collecting several specimens of the same species at the same time.[273] He does write in his dissection notes or 'Obs.' when he is illustrating two or more separate plants on the one page. For example, on AG7714, Archer writes in his notes on the drawing; 1a, was gathered in April, the proper time of flowering; 1, in the end of May. The colour is often deeper than in this specimen." (Fig. 19).

On AG7689 (*Dipodium*) he writes: "The spots on the flower are sometimes darker than in the drawing", on AG7705 (*Pterostylis*) "The horns of the lateral sepals vary in length, and also that of the posterior one. The flower No 2 was found in a marsh.", and on AG7691 (*Prasophyllum*) "I find that the drawing No 1 represents the flowers as smaller than they usually are". TMAG illustrations AG7687, AG7699, AG7704, AG7708, AG7714 and AG7717, and possibly AG7695, contain more than one specimen.

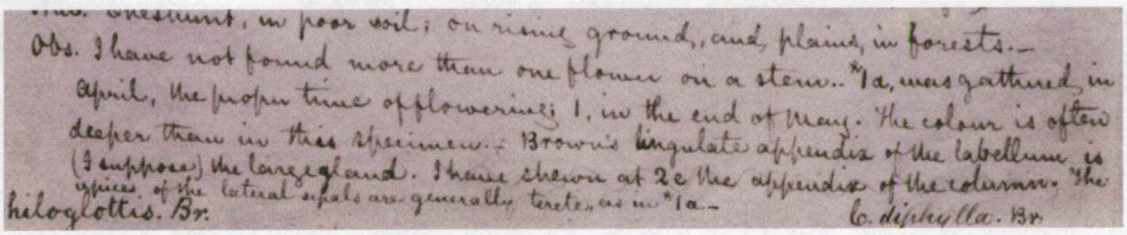
Obs. I have not found more than one flower on a stem.– *1a, was gathered in April, the proper time of flowering; 1. in the end of May. The colour is often deeper than in this specimen.– Brown's lingulate appendix of the labellum is (I suppose) the large gland. I have shewn at 2c the appendix of the column. The spikes of the lateral sepals are generally terete, as in *1a.–
heloglottis. Br.
C. diphylla. Br.

*Figure 19: AG7714 showing Archer's note on using two flowers. "Obs. I have not found more than one flower on a stem.– * 1a, was gathered in April, the proper time of flowering; 1. in the end of May."*

Pencil notes on three of the *Prasophyllum* illustrations (AG7695, AG 7697, AG7710), possibly written by Archer after working on them with Hooker or Lindley, indicate that he now believed the dissections may belong to at least two different species.

On AG7709 Archer writes in his notes: 'The only specimen I have obtained fresh; found by Mr Chas Hortle." On the bottom right of the illustration is a pencil note: "Cheshunt Jan 31 53, (CH)".

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[273] Jan 7th 1848: "Collected some fine specimens of Antustria australis [?Sarcochilus] in flower, and made a drawing of one spike." 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

The TMAG illustration AG7700 *Thelymitra* Forst. is an incomplete pencil sketch with notes on colour added in very faint pencil. Archer may have made sketches with notes to remind him of the colours to use when he was finishing the illustrations in watercolour.[274] Although only a pencil outline, this sketch was later used as part of the illustration for *Thelymitra nuda* R.Br. in *Flora Tasmaniae*. The incomplete TMAG *Prasophyllum* illustrations AG7688 (shown in Figure 21), AG7692 and AG7696, all bear Archer's notes on colour. In these illustrations the dissections have been completed, but the entire plant is still only a pencil sketch.

From the various stages of completeness of the TMAG illustrations, and his diary notes, it can be surmised that Archer would work on an illustration over several days, making a pencil outline of the whole plant, and dissecting it (or others gathered at the same time) using his microscope to clearly identify the finer morphological details, make pencil sketches of the dissected parts, making notes on colour to enable him to complete the watercolour even if the flower should wither during the time he worked on it.

It is evident from some of the TMAG illustrations that Archer would at times work on the whole plant and the dissections at different times, or draw the orchid on several pages before compiling the whole onto a single sheet. TMAG plates AG7711 and AG7712 are examples showing this (Fig. 20). They show only some dissections completed and coloured, with notes written on the dissections, however there is the space left on the pages where the whole plant would be drawn, and, indeed, Archer has written in his notes "1. Plant, nat. size" although there is no drawing of the whole plant on the page.

[274] Illustrators often devise colour codes or notes to remind them of the original colour of specimens that may fade or alter in some way. Ferdinand Bauer is famous for the intricate code he devised for his field sketches.

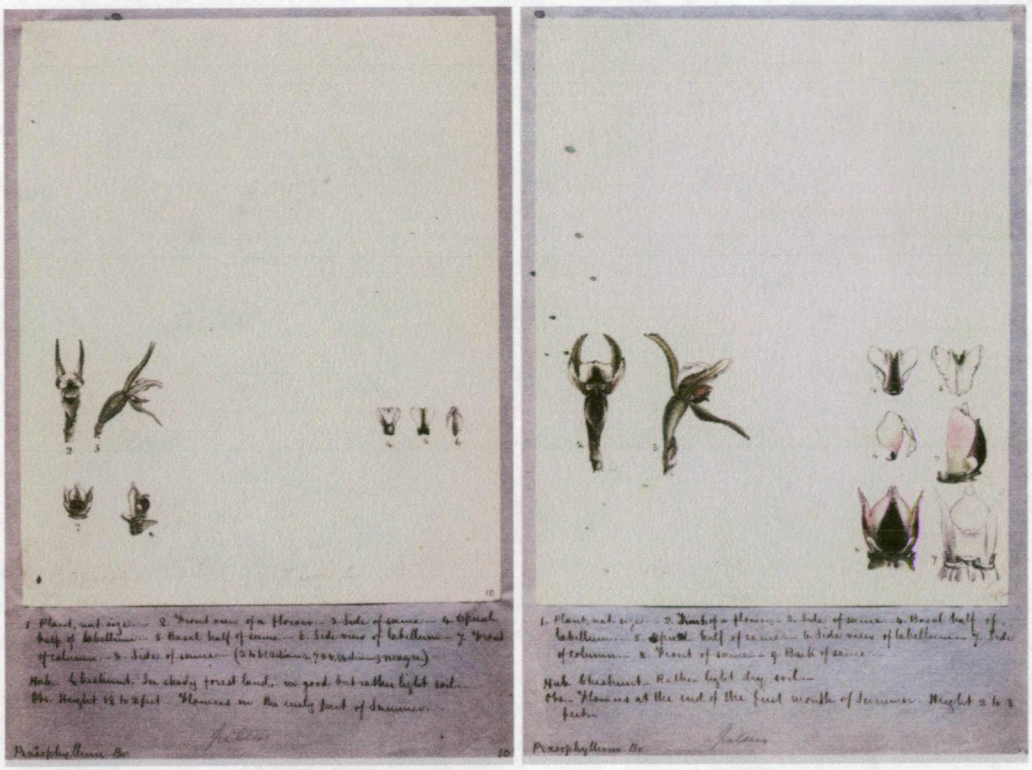

Figure 20: Examples of uncompleted drawing. Space left for entire plant.

TMAG drawing AG7690 is an example of what may be Archer's next stage in the drawing of the illustrations. In this example the dissections are complete, however the whole plant is still only an outline pencil sketch, as is AG7688 (Fig. 21). It seems obvious from his notes that Archer intended to return to the illustrations and complete them at a later stage as he has included notes on the entire plant.

The examples above all belong to what Archer called *Prasophyllum*,[275] and they appear to have caused him some difficulty in identifying the species correctly. It is possible that he gathered several species (several have dates in Dec—AG7688 12/12, AG7692 18/12, AG7695 22/12 and AG7710 10/12) and tried to compare and draw them together, and that this is why they are incomplete, and in two cases (AG7695 and AG7710) there appears to be more than one species in the dissections. In the last two examples there are pencil notes indicating this.

[275] Recently *Prasophyllum* has gone through a review and there are now three new genera for what was once considered a single genus—*Prasophyllum, Genoplesium and Corunastylis.*

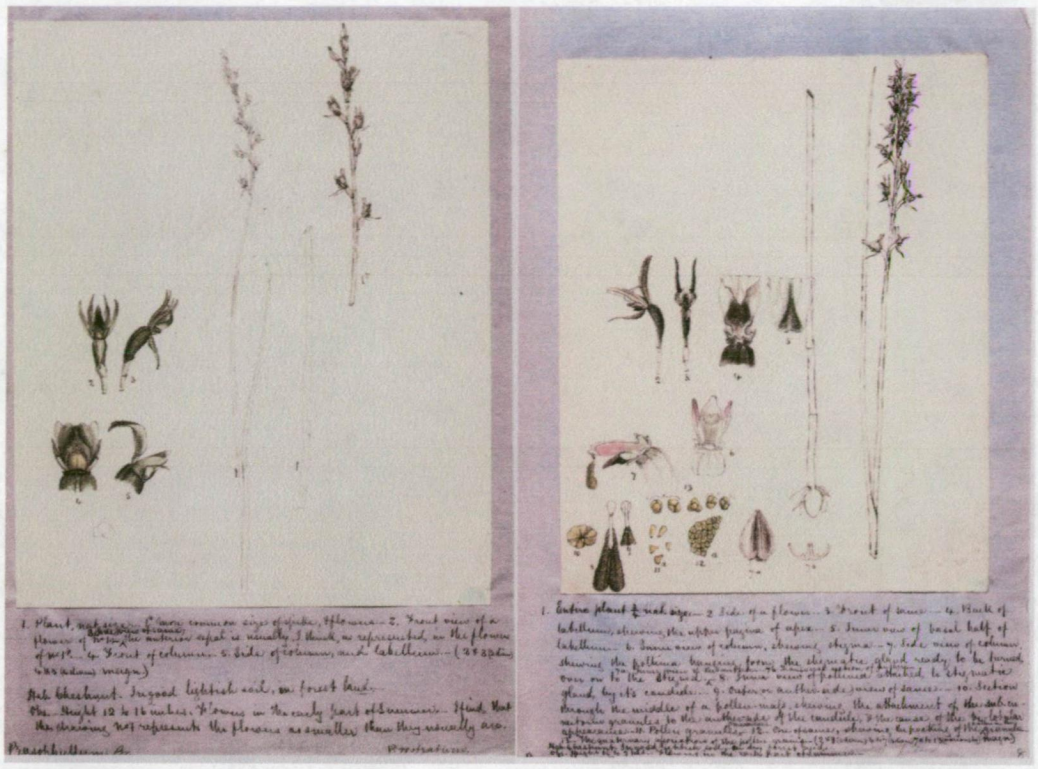

Figure 21: Examples of completed dissections, but unfinished entire plant.

In some cases the reverse was true. On TMAG illustration AG7686 (Fig. 22), Archer has completed the whole plant in colour, but the dissections are only pencil outlines. Archer appears to have worked and reworked the illustrations at various stages, it can clearly be seen that he has at times cut dissections from the pages as the description is still on the notes under the drawing. AG7687 is an example of this; although there are notes for dissection 4, it is missing from the illustration (Fig. 23).

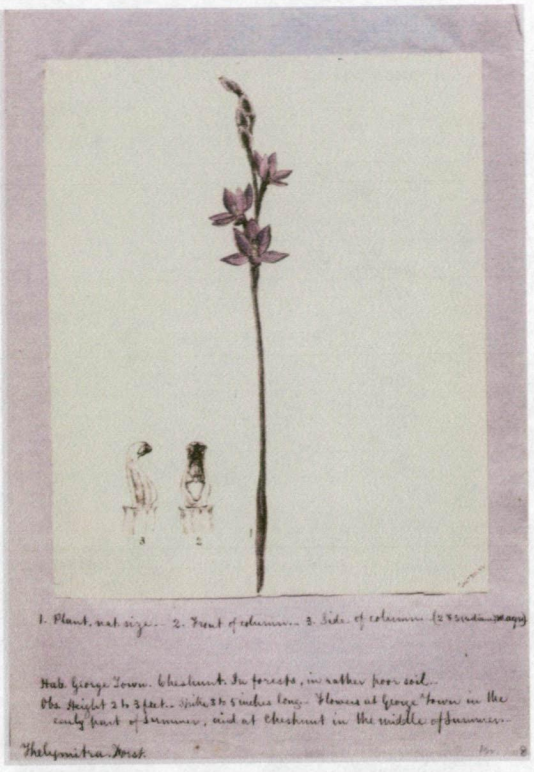

Figure 22: Illustration showing completed flower and pencil dissections.

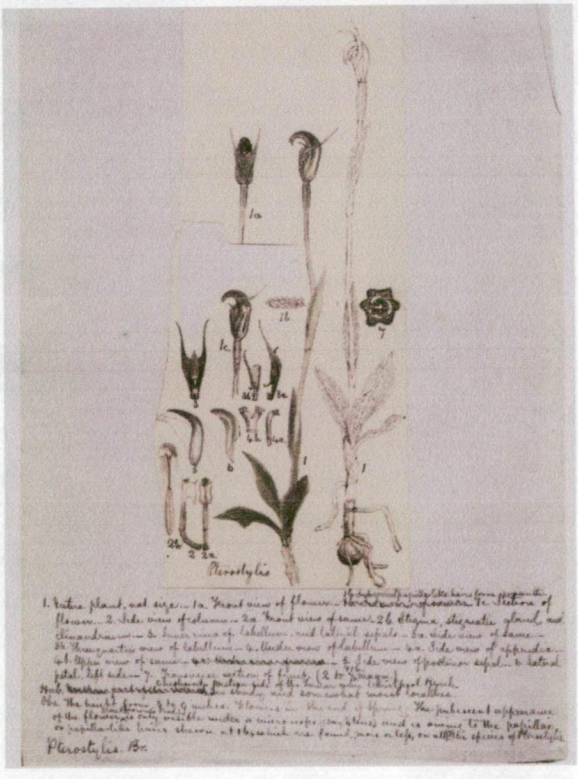

Figure 23: AG7687 showing section 4 cut out.

All illustrations have been cut out and pasted to a larger page on which the descriptions are written. Perhaps the reworking was carried out as he gained more knowledge and experience.

Dates and locations

Very few of these drawings can be accurately dated; of the 33 illustrations only nine are marked with the year in which they were drawn.

AG7686	Dec 20, 53	in ink on bottom right corner
AG7688	Dec 12, 54	in pencil on bottom right corner
AG7694	Dec 28, 53	in ink on bottom right corner
AG7698	Nov 4, 52	in pencil on bottom left corner
AG7699	Dec 1, 49	in ink on bottom right corner
AG 7701	Dec 10, 53	in pencil on bottom right corner
AG7708	Feb 4, 50	in pencil on bottom right corner
AG7709	Jan 31, 56	in pencil on bottom right corner
AG7715	Dec 28, 53	in ink on bottom right corner

Of the remaining 24, eight carry partial dates; day and month, but no year.

AG7688	Dec 12	in pencil on bottom right corner
AG7690	Nov 2	in pencil on bottom left corner
AG7692	Dec 18	in pencil on bottom left corner
AG7695	Dec 22	in pencil on bottom right corner
AG7703	Nov 10	in pencil on bottom left corner
AG7710	Dec 10	in pencil on bottom left corner
AG7716	Dec 18	in ink on bottom left corner
AG7717	Nov 15	in pencil on bottom left corner

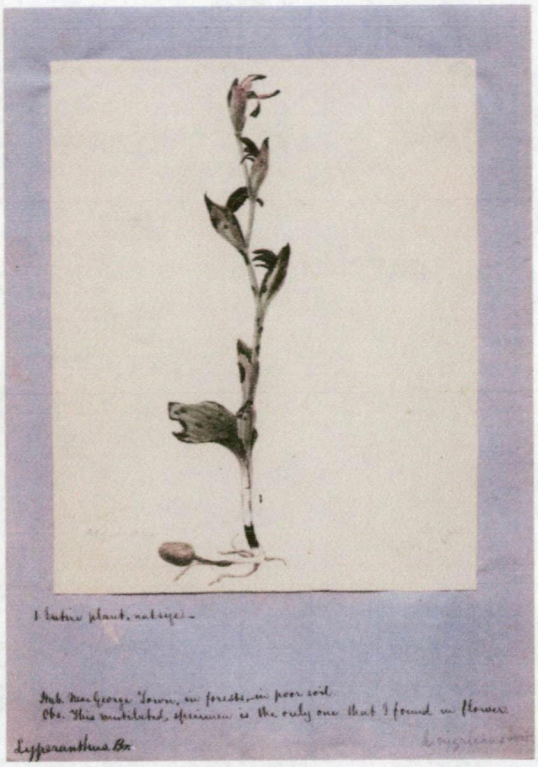

Figure 24: AG7701 dated Dec. 10, 53.

It is possible to date some of the illustrations from Archer's diary notes. The TMAG illustration AG7701 Archer named as *Lyperanthus* Br (Fig. 24). In pencil Lindley has written *Lyperanthus nigricans.* This could be the plant Archer refers to in his diary when he writes:

> 1853 Oct 28th By steamer 'Lady Bird' to George Town. I collected some fine orchidious plants, some of which were new to me, viz 3 sps of *Macdonaldia*, and a *Caladenia* which I found on the hill above the Revd Mr Garrett's at Whirlpool Reach; together with one or two sps of *Thelymitra*, and a singular orchid with the flowers shrouded in large bracts, but they were so much eaten by insects as to render the determination even of the genus impossible.

This was the illustration used as the basis for the *Flora Tasmaniae* drawing; however Fitch redrew the leaf to show different damage.

As very few of the drawings are fully dated it is difficult to detect any change in Archer's style during his time as an illustrator. It is also evident that he reworked the

illustrations as his knowledge increased, and this would also make it difficult to detect change or improvement in style. Any difficulty in the ability to accurately identify the species appears to be species related rather than Archer's experience as an illustrator. The illustrations used for *Flora Tasmaniae* range from the earliest to the latest, as well as pencil outlines to the most completed, so there does not appear to be a noted change that influenced JD Hooker or Fitch to reject Archer's earliest drawings in favour of more recent work.

Exhibitions

Fifteen of the TMAG illustrations were part of the exhibition *Four Centuries, Five Artists: Australian Plants Illustrated* at the Red Box Gallery at the Royal Botanical Gardens in Sydney in early 2004[276]. Notes from the brochure of this exhibition state:

> Also on display will be the illustrations of Tasmanian botanical collector, William Archer. During the 1840s and 1850s, Archer drew a stunning collection of orchids which were eventually published in *Flora Tasmania* [sic] (1860).

The same fifteen illustrations were also shown in the *New Acquisitions* exhibition at the Tasmanian Museum and Art Gallery from February till May 2007. These two exhibitions are the only known public exhibitions of Archer's work. The fifteen illustrations were framed using archival acid-free floating box mount in a standard size frame 57 x 43.

Orchids to England

In his diaries and his letters to Hooker, Archer mentions orchid illustrations sent to England,[277] and also some brought with him when he went to England in 1856. As Archer continued to draw orchids after his return, and he did not indicate which illustrations were sent ahead, nor which were taken with him, it is not always possible to

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[276] Department of Environment and Climate Change, Botanic Gardens Trust, *Botanical Art Treasures,* viewed 20 April, 2006, <http:/www.rbgsyd.nsw.gov.au>

[277] Throughout August 1853 Archer writes in his diary of preparing orchid drawings to send to England. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

say with confidence which of the illustrations went to England. Certainly all the illustrations in *Flora Tasmaniae* were in England at some stage.[278]

Archer writes in his diary while in England that he takes the orchid illustrations to Lindley to inspect. He also notes that Lindley writes the names on some of the drawings[279]. These include AG7690, AG7692, AG7693, AG7694, AG7695, AG7698, AG7699, AG7701, AG7705, AG7707, AG7708, AG7709, AG7710, AG7711, AG7712 and AG7715, and possibly AG7700.

Linnean Society Illustrations

William Archer presented 36 watercolours of orchids to the Linnean Society in 1860.[280]

When the Tasmanian Museum and Art Gallery's illustrations were compared with the *Flora Tasmaniae* plates, it became obvious that the TMAG drawings had not been the main source of illustrations in the preparation of the illustrations for *Flora Tasmaniae*.

The Linnean Society illustrations were the originals for a large number of the plates in *Flora Tasmaniae*, in fact all but one (*Pterostylis nutans* R.Br.) had been used as the basis for *Flora Tasmaniae* plates. They are among the more complete Archer illustrations, all being beautifully finished watercolour works.

Very few of the Linnean Society illustrations are able to be fully dated, however the ones that can range from some of Archer's earliest work in 1849 to the mid 1850s. Although it is difficult to discern the embossed stamp from the photographs, the *Pterostylis dubia* R.Br., *Prasophyllum despectans* Hook.f., and *Prasophyllum nudum* R.Br. illustrations, certainly do bear the Kew stamp.

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[278] See Appendix 1 for list of TMAG illustrations used in *Flora Tasmaniae*.

[279] "I took my drawings to Dr Lindley, (who expressed himself as being very much pleased with them,) and left them for some days in his hands; after which he returned them to me with some names attached (in some instances erroneously) to those left unnamed by me." From Archer's diary 23/8/1856. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

[280] 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

As is the case with a number of the TMAG illustrations, the Linnean Society illustrations have on occasion been combined to illustrate a single species in *Florae Tasmaniae*. Indeed there are examples where both TMAG and Linnean Society illustrations have been combined. This is discussed in detail later in this chapter.

Who drew the *Flora Tasmaniae* plates?

When *Flora Tasmaniae* was published in 1860 there were, as JD Hooker writes, 74 known species of orchids in Tasmania, with eight being endemic.[281] The publication contains 27 hand-coloured plates of Archer's orchid drawings illustrating 56 different species. Archer had illustrated three-quarters of all species known at that time—a remarkable achievement—even without considering that often these species were not known to science and it was his work that helped define several of the new species. His work also helped sort out the species limits in some genera and identified several new species. On comparing the *Flora Tasmaniae*, TMAG, and the Linnean Society illustrations, it can be seen that Archer drew even more species than are represented in *Flora Tasmaniae*,[282] and when one considers that there were more illustrations in existence, he may have been well on the way to drawing nearly every species known at the time.

On examination of the TMAG and Linnean Society illustrations it is clear that many of them were the basis for the *Flora Tasmaniae* illustrations, however it is also clear that there are at least 10 plates in *Flora Tasmaniae* not represented in either the TMAG or Linnean Society collections. As Archer is credited as illustrator on these plates many more illustrations must have existed at some time. Whether these illustrations still exist is unknown. The Archer diaries and some letters, and the TMAG illustrations used for reference in this thesis, were held by different branches of Archer's descendants, and it is possible that upon his death (or later that of his wife Anne), the drawings, journals and letters were divided and handed down to different members of the family and some

[281] Buchanan in 2005 states that there are 208 species. Buchanan A., (ed.), *A Census of the Vascular Plants of Tasmania, and index to The Student's Flora of Tasmania*, Fourth Edition, Tasmanian Herbarium Occasional Publication No 7, 2005.

[282] For example, the TMAG illustration of *Spiranthes australis* (R.Br.) Lindl. is not represented in *Flora Tasmaniae*.

of the sets have either been lost, or might be retained by another descendant of the Archer family.

All but one of the orchid plates in *Flora Tasmaniae* are marked; W. Archer del. [delineated] W. Fitch lith [lithography—discussed later in this chapter], or W. Archer & W Fitch del. W. Fitch lith., the latter indicating that the drawing was a joint effort by Archer and Fitch. This collaboration is disputed by Archer who writes:[283]

> 1857 August 24th – To Kew. Received part 4 of the *Flora of Tasmania* from Dr. Hooker. Mr. Fitch is lithographing the drawings of orchids, and adds his name to mine as delineating them, somewhat unfairly I think, for at the most he only adds a flower or two, and an unnecessary drawing of a dissection—excepting in a very few cases. However, I told Dr. Hooker, that I did not care much about it so that the drawings were well done, and the orchids well-illustrated. The drawings which I shall present to the Linnean Society will show what I have done in the matter.

Flora Tasmaniae contains 28 plates of orchid illustrations (illustrating 56 orchids), of which only two, Plate CXXVI (*Gastrodia sesamoides* R.Br.) and Plate CXXVII (*Dipodium punctatum* R.Br.) are solely attributed to Archer. Plate CXXVIII (*Gunnia australis* Lindl.[≡*Sarcochilus australis* (Lindl.) Reichb.f.]) is the only one solely attributed to Fitch. The remaining 25 plates are attributed jointly to Archer and Fitch. It is interesting to note that the three plates with sole artists are the last three in the publication.

Was Fitch justified in adding his name as joint illustrator? It is not known if it was a part of his agreement as artist at Kew that this would be the case however there are other instances where there has been dispute as to the validity of his adding his name to drawings. Turrill writes in *Joseph Dalton Hooker: Botanist, Explorer, and Administrator*:

> As an example, the type material of *Veronica benthamii* (*Hebe benthamii*) is represented in the Kew Herbarium by three sheets of specimens collected by [Dr J] Hooker, and to one of these are attached two separate pieces of paper with drawings of dissections of the reproductive parts in pencil; also in the collection of drawings there is a water-colour of the plant by Hooker. It is

[283] Archer diary 1856. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

> obvious on comparison that the painting and the dissections are the basis of Fitch's *del.et lith* plates of the species. Other specimens have been checked at random with similar results. This is not to discredit Fitch but to add to our knowledge of the actual achievement of Joseph Hooker.[284]

The same can be said for the orchid illustrations in *Flora Tasmaniae*. A comparison of Archer's originals shows that apart from the addition of a flower in some cases, or showing dissections at an angle rather than straight-on, it is clearly Archer's work. In a letter to JD Hooker dated 8th September, 1871, Archer writes:

> By the by, Mueller has informed me that Professor Reichenbach has been abusing Fitch for the drawings of *Calochilus campestris* in the *Flora of Tasmania*. Now I have this to say in the matter, that if Fitch has followed my original drawings I humbly beg leave to defy the fierce Professor to find anything erroneous about the drawings [the original].[285]

A comparison of these drawings shows that although Fitch used Archer's illustration for the basis of the plate, the small changes are in some cases significant and impact upon our understanding of the morphology of the plant. This will be discussed in greater detail later in this chapter.

The most obvious difference in comparing of the original illustrations and the printed plates is the mirror image of the plates. This is a result of the printing method used. A couple of years after his first scientific drawings were published Fitch began to employ lithography to create his images. Fitch learned lithography around 1829 in Glasgow. It is thought that he studied under Hugh Wilson.[286]

Lovell Reeve & Co, the publishers of the *Botanical Magazine* from 1845 to 1922, and publisher of *Flora Tasmaniae* explained the procedures followed by their colourists in the 1920s, this procedure would have been similar in the 1850s for *Flora Tasmaniae*: "A regular colourer prefers to work in hundreds of the same plate, one colour at a time and one plate after another, in a purely mechanical way. Fitch introduces botanical

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[284] W. Turrill, *Joseph Dalton Hooker: Botanist, Explorer, and Administrator*, 1963, p.23.
[285] DC 172, 219.
[286] According to Hewson, Fitch studied lithography under Hugh Wilson. H. Hewson, *Australia: 300 Years of Botanical Illustration*, 1999, p.96.

details to the many, though not all, of his lithographed hand-coloured plates. Fitch's style is fluid and confident, with a strong sense of design, and the drawings are perfectly complemented by the work of the colourists."[287]

The colourists would work from a fully coloured example provided by Fitch, or possibly from Archer's original watercolour. In 1963 a black and white reprint of *Flora Tasmaniae* using the black and white lithography plates was published by Cramer-Weinheim. This shows the plates as the line work the colourists would have used (Fig. 25)

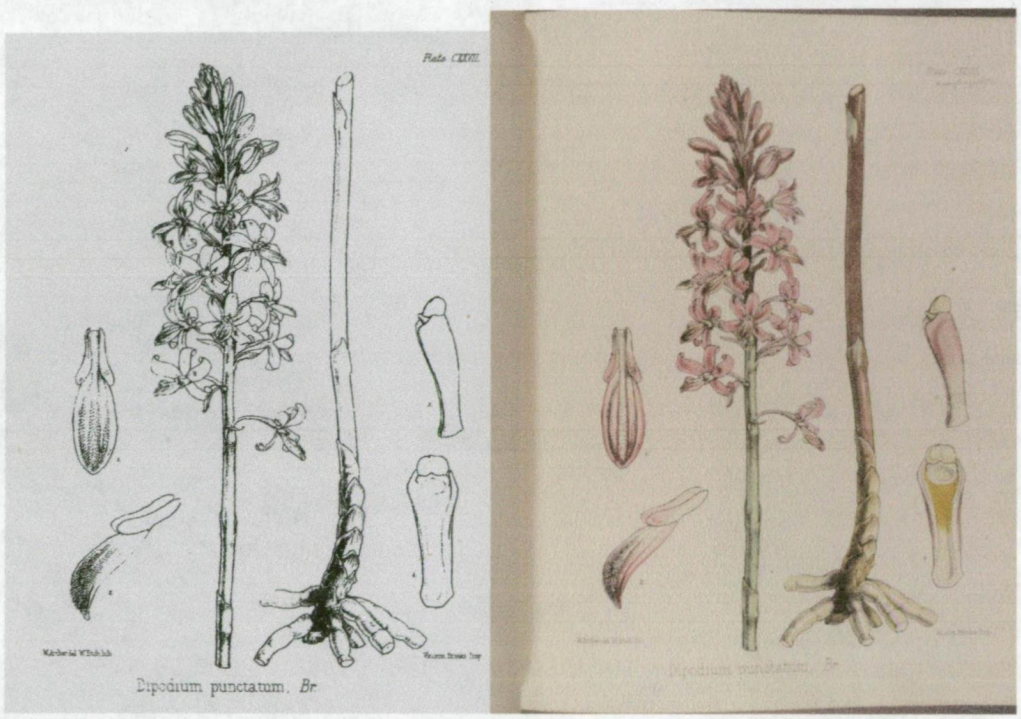

Figure 25: Example of lithographed line work the colourist would start with, and the same illustration as shown in Flora Tasmaniae, *a hand-coloured water-colour.*[288]

Archer writes in his diary of 14 April 1858:[289] "Arranged my drawings & specimens of orchids that have been at Kew, and found the former soiled by spots of colour etc, no doubt through the carelessness of Mr Fitch." This could have been when Fitch was

[287] G. Saunders, *Picturing Plants: An Analytical History of Botanical Illustrations*, 1995, p.102.
[288] The coloured example is from the original Reeves publication of 1860, while the black and white illustration is from the 1963 Cramer-Weinheim reprint.
[289] Archer diary 1856. 61–1 – Archer, W. Diaries 1847–74, Morris Miller Library.

preparing his finished copy for the colourists. The TMAG illustrations AG7712 and AG7718 show the spots of colour that Archer writes of in his diary (Fig. 26).

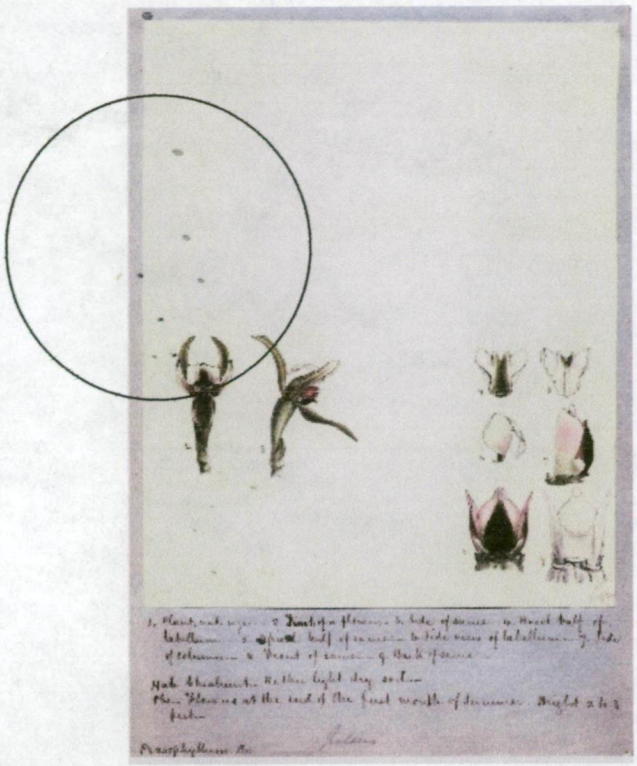

Figure 26: Example of spots of colour on Archer illustration.

Comparison of the Sets of Illustrations

The identification of species of orchids often requires the interpretation of subtle differences in morphology ie, arrangement and number of flowers (eg. in *Dipodium*), the shape of and appearance of the column (eg. in *Thelymitra*), or the number of and size of leaves (eg. in *Diuris*). Inadvertent changes to drawings would therefore cause confusion for subsequent researchers.

In this section I will discuss Archer's illustrations (TMAG and Linnean Society) with those lithographed by Fitch in *Flora Tasmaniae*. Did the changes Fitch made in the illustrations affect the botanical accuracy of the illustrations? I will argue that in some instances this was the case, that the changes made, although sometimes minor, but in

some cases, major, do affect the illustration to the degree that, where Archer's drawing was clearly of a particular species, the final published illustration cannot be positively identified.

Appendix 4 shows each *Flora Tasmaniae* plate with detailed comments on the changes made from Archer's original illustrations.

Aside from the reversing of the images in the printed illustrations, the result of the lithography process, the most noticeable difference is that the *Flora Tasmaniae* plates are outline drawings. Fitch would draw an outline of the plants and dissections as a guide for the colourists, who would later hand colour each plate.[290] This outlining has meant that there is a loss of the fine detail and information that Archer was able to include in his delicate illustrations, although this loss of detail should not affect the illustration to the extent that identification of a species would no longer be possible.

A large number of Archer's dissections are not included in the plates (in fact the majority of his dissections), and the ones that are included have been moved—this would probably be a space and cost saving device, enabling two, and sometimes even three different species of orchids to be illustrated on the one plate.

It is obvious that Archer selected the best and most complete of his illustrations to donate to the Linnean Society, but even so, some of the most incomplete of the TMAG drawings were used as a basis for some *Flora Tasmaniae* plates. An example of this is the line drawing of *Thelymitra nuda* R.Br., where Fitch has combined the completed Linnean Society illustration and the outline pencil sketch held by TMAG, to complete his lithograph (Fig. 27). I will discuss this illustration further in this section when considering the possibility that the combining of illustrations may have led to more than one species being represented in that illustration. Now, although Archer's was a pencil

[290] The illustrations in the copy of *Flora Tasmaniae* (from the Royal Society of Tasmania collection) that I was fortunate enough to be able to photograph are strikingly vivid in colour (see Appendix 3 for the complete set), most probably because the volume has not been opened very often, and the water colour has not faded. On comparing the sets of illustrations, it seems likely that the TMAG set may have faded considerably from exposure to light in not having been stored in ideal conditions in the past.

sketch, all the detail needed for Fitch was included in the drawing, so even in this case, it was still Archer's drawing that was used, with only the colour being added, and there are other Archer examples of *Thelymitra nuda* R.Br. for Fitch to base the colour upon.

Figure 27: Illustration of Thelymitra nuda *R.Br. used in* Flora Tasmaniae.

The illustration of *Cryptostylis longifolia* (Br. Prodr. 317) [≡*Cryptostylis subulata* (Labill.) Rchb.f] on Plate CVIII is based on a mainly uncoloured TMAG drawing where Fitch has combined Archer's partially coloured drawing with the pencil outline contained in the same illustration thereby creating a plant with two fully bloomed flowers and he has added a half opened bloom (Fig. 28).[291]

[291] It is possible Fitch was also working from another of Archer's illustrations to enable him to add the half opened bloom. As stated previously, there are illustrations contained in *Flora Tasmaniae* that do not have examples of Archer's originals in the TMAG or Linnean Society collections, and since they carry W. Archer del., there must have been other drawings at the time.

Figure 28: Illustration of Cryptostylis subulata *R. Br. used in* Flora Tasmaniae.

The illustration of *Dipodium punctatum* Br. [≡*Dipodium roseum* D.L.Jones & M.A.Clem.] is based on two pencil sketches held by TMAG. The published illustration has many more flowers than either of Archer's sketches (Fig. 29). Neither Archer nor Hooker indicate the usual range in the number of flowers, however the photograph and illustration in Curtis[292] appears more like Archer's drawing in the number of flowers on the spike. It is possible that, although Fitch used Archer's illustrations of what appears to be *Dipodium roseum* D.L.Jones & M.A.Clem., their dried specimens included examples of other species (unknown to them at the time), and the extra flowers were added to make the illustration fit an average of several specimens.

[292] W. Curtis, *The Student's Flora of Tasmania, Part 4*, 1979, p.130–131 & pl. 20.

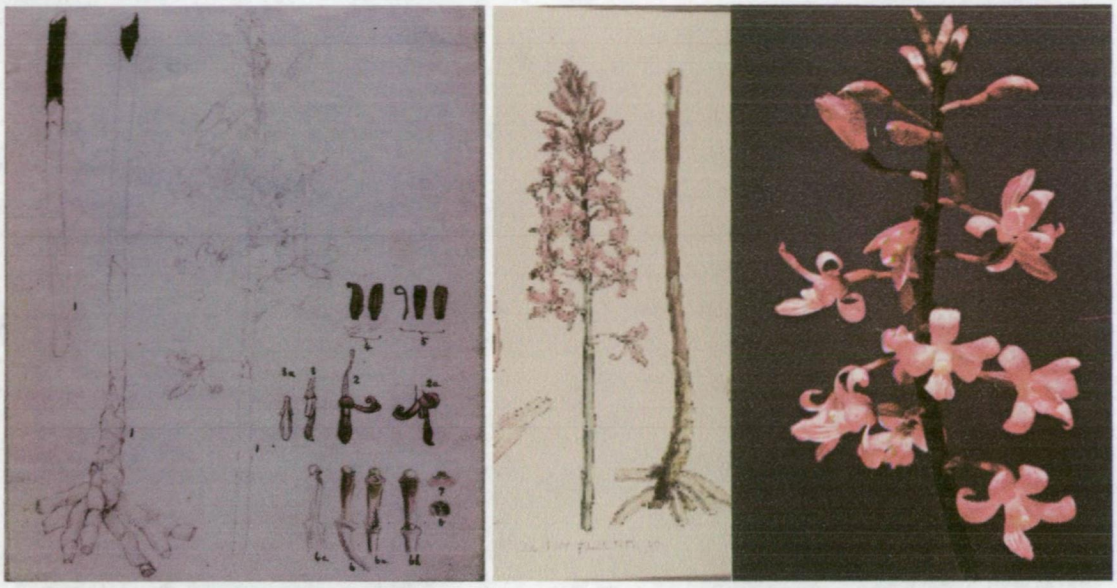

Fig 29: Illustration of Dipodium roseum *D.L.Jones & M.A.Clem.*[293]

As mentioned above, Fitch at times combined two or more of Archer's drawings to illustrate one species and this could lead to the possibility of more than one species being represented in an illustration. There is a very good example of this in the *Flora Tasmaniae* illustration on Plate CXVII of *Pterostylis mutica* Br. [≡*Hymenochilus muticus* (R.Br.) D.L.Jones & M.A.Clem.] (Fig. 30).

In this illustration Fitch has combined two of Archer's illustrations—one held by TMAG and the other by the Linnean Society[294]. Archer names the Linnean Society illustration as *P. mutica*, but only writes *Pterostylis* Br. on the illustration held by TMAG (there is a pencil note by Lindley – *mutica* – on the illustration). In his notes on

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[293] The TMAG illustration is in a very faint pencil and does not reproduce well.

[294] I have found no references to how Hooker and Fitch worked together on the illustration of publications. Fitch would almost certainly have been instructed by Hooker as to which drawings were referable to which species at that time. Fitch may therefore have come up with the composite to show variation in the morphology. I think it would be strange if Hooker would allow Fitch (not being a botanist) to combine separate illustrations without some authority to do so. However, given the number of cases of where the minor changes, and the combination of illustrations, made by Fitch discussed above, could affect the accuracy of the illustrations, it may be possible that Hooker gave Fitch carte blanche on the illustration of Flora Tasmaniae and concentrated only on the written text. From Archer's reaction to seeing Fitch's name on the finished plates, it is obvious he had no input during the lithographic process, nor saw any proofs of the illustrations before they were published. Archer does not mention meeting Fitch in his diaries of the time, so it seems likely that he worked with Hooker on the botany of the specimens, and simply handed the illustrations to him for Fitch to work on.

the Linnean Society illustration, Archer writes:

> I have found a species **somewhat** [emphasis mine] like this, with crowded flowers, which are distorted, so as to give the idea that they may have suffered from an oblique lateral pressure.

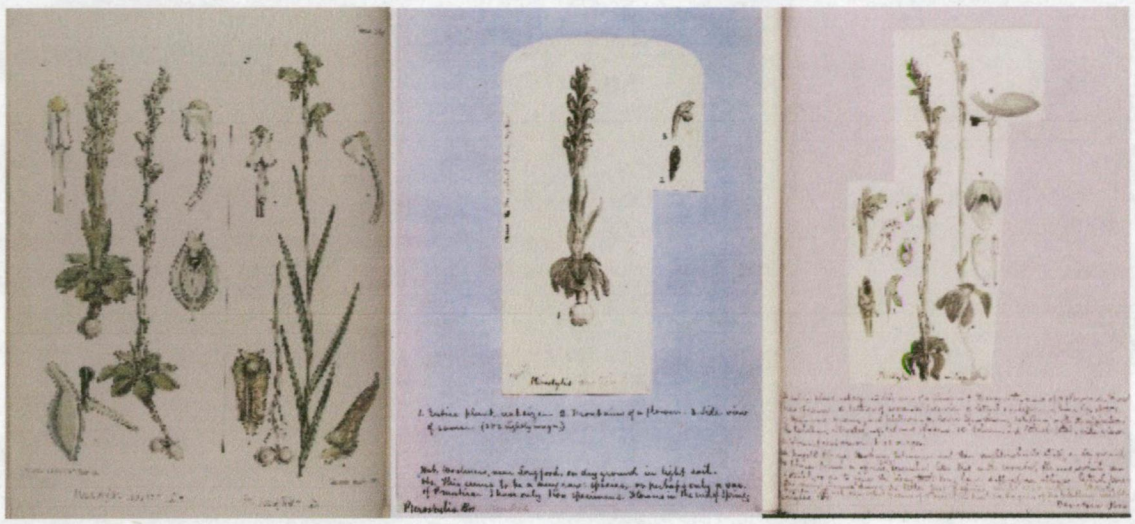

Figure 30: The combination of two or more of Archer's drawings to illustrate one species in Flora Tasmaniae.

From his notes it can be seen that Archer clearly saw these as two different species, and perhaps, not being able to positively identify the TMAG illustration in any reference available to him, merely named it *Pterostylis* Br. because he knew it was not any previously described species. In the *Flora Tasmaniae* description of *Pterostylis mutica*, Hooker writes:

> A very variable and abundant species, from 3 to 10 inches high, robust or slender, few – or many flowered, the flowers small, densely or loosely spiked, the spike straight or somewhat twisted.[295]

In this description Hooker may have made the description of the species more varied to cover the two drawings that have been combined for the illustration of the one species.

[295] J. Hooker, *Flora Tasmaniae*, 1843–60, p.21.

The differences on the plate that contains *P. despectans, P. archeri* and *P. nudum* are worth commenting on. Archer's illustrations of these (again a mix of the TMAG and Linnean Society sets) show no leaves other than the short leaf-blade immediately below the inflorescence.

On the *P. nudum* Hook.f. [≡*Corunastylis nuda* (Hook.f.) D.L.Jones & M.A.Clem.] drawing Fitch has added a leaf that grows from the bulb. According to Curtis, *P. archeri* Hook.f.[296] [≡*Corunastylis archeri* (Hook.f.) D.L.Jones & M.A.Clem.] is the only species with "often a single long terete leaf arising from base of the plant present at time of flowering". *P. nudum* (*P. beaugleholei* W.H.Nichols in Curtis[297]), is described: Leaf-blade 1.5–2.5 cm long, immediately below inflorescence" (Fig. 31). Could this addition of a leaf lead to confusion in identification of the species depicted in the illustration? In this instance, I feel this is definitely the case.

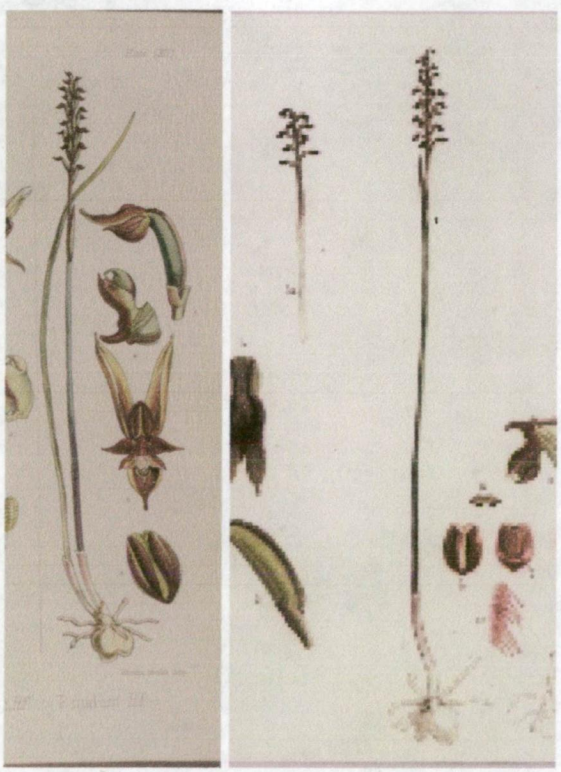

Figure 31: Illustration showing added leaf on Prasophyllum nudum *Hook.f.*

[296] W. Curtis, *The Student's Flora of Tasmania, Part 4*, 1979, p.82.
[297] W. Curtis, The *Student's Flora of Tasmania, Part 4*, 1979, p.82.

The illustration of *D. corymbosa* Lindl. is obviously a combination of two of Archer's illustrations, one is held by the Linnean Society, however there is no known copy of the other. In the Linnean Society illustration, Archer has had to show the stem cut to fit the entire plant on a page. The *Florae Tasmaniae* plate has the stem shown in one section, making the stem shorter than Archer's original. A leaf has also been added to the stem, from Archer's original 4 to 5. Curtis notes 2–4 leaves in the identification of this species.[298] This is another example of the changes made by possibly leading to confusion in the identification of the species being illustrated.

On the illustration of *D. sulphurea* R.Br., Archer's illustration has been used, but a bud has been added in the *Flora Tasmaniae*.

In the New Zealand Native Orchid Group, Orchid Journal 60, Graeme Bradburn "pointed out that the Archer drawing from *Flora Tasmanica* [sic] labeled *Pterostylis nana* is not one of the *P. nana* complex but is probably *P. pedunculata*. I blame W. Archer the artist or W.H. Fitch the engraver, whoever did the labels – Ed.", however Archer had already found that error, and in the amendments to *Flora Tasmaniae*, Hooker writes: "Archer considers that the figures A and B of Plate CXIV are reversed". Therefore it seems likely that Fitch may have confused the two when naming them on his lithographic drawing. Do not forget that the image is reversed on the printed page and it would be easy to make this mistake when working in reverse.

On nearly all the plates, Fitch has redrawn the dissections, particularly those of the labellum and column, to shown them at a slight angle, rather than front on or side on, as Archer drew them. On comparing Bauer's illustration of *Calochilus paludosus* with those of Archer and Fitch, it can be seen that Archer includes the many dissections that Bauer does, and that Bauer also tended to draw those sections more straight on than Fitch (Fig. 32).

[298] W. Curtis, *The Student's Flora of Tasmania: Part 4a*, 1979, p. 36.

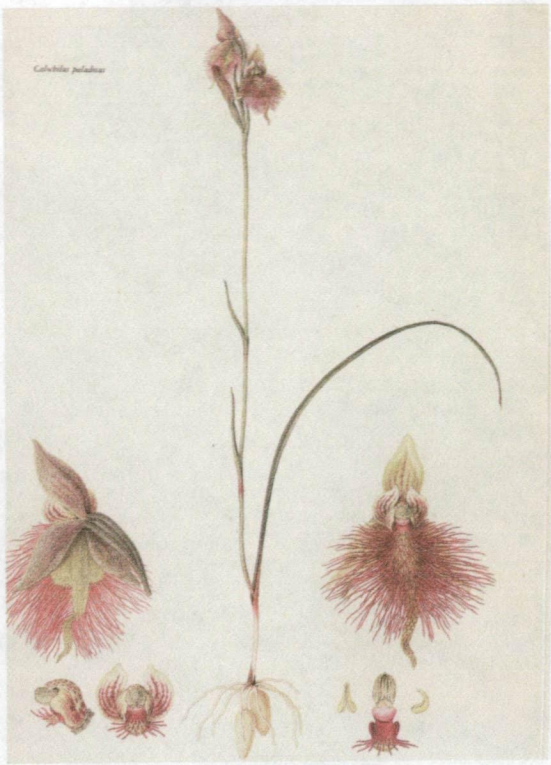

Figure 32: Bauer's Calochilus paludosus.

CHAPTER 4—THE ORCHIDS

This chapter tackles the complex problem of identifying the orchids illustrated by Archer. Orchids are notoriously difficult to identify, and debate by botanists continues on the number and names of species, subspecies, species complexes, hybrids, etc.[299] As well as this, new genera that are often more narrowly defined, have recently been recognised for a number of the Tasmanian species. I have used the Key to Genera from *The Orchids of Tasmania*[300] by Jones et al as the basis to key out the illustrations. It is not always possible to follow the key through to identify a particular species, as there is on occasion insufficient information in the illustration (particularly in the instances where there are no dissections included). In these instances, I use Archer and Hooker's identification as a guide, and then work through; the key, the descriptions, the illustration and photographs, the habitat etc, in an endeavour to work out the identification of the orchid or orchids in the illustration.

When Archer was working on his illustrations in the 1840s and 1850s, he was using for reference Brown's 1810 *Prodromus Flora Novae Hollandiae*,[301] which identified only 16 species of Tasmanian orchids,[302] as well as works by John Lindley.[303] He also had

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[299] There has always been debate on the identification of orchids. In a letter dated 20 Dec 1858. JD Hooker replies to a letter from Mueller on the orchids in Flora Tasmaniae: "... if you, I, Lindley, Brown & Archer differ so much about orchids, where is the truth?". R. W. Home et al. (ed), *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller, Vol 1*, 1998, p.436.

[300] D. Jones, et al., *The Orchids of Tasmania*, 1999.

[301] In a letter to Gunn dated 9/2/1849, Archer writes: "The orchis [sic] found near the Lobster Rivulet during my excursions with the Bishop & Mr Davies is the Caleana major? of Brown in his Prod.", and later in the same letter: "Dr Lillie has lent me his copy of Brown's Prod. from which I obtain a good deal of information." Mitchell Library Sydney ML A3/6.

[302] D. Jones, et al, *The Orchids of Tasmania*, 1999, p.1.

[303] In a letter to Gunn dated 29/12/1849 Archer writes: "I think I shall forward descriptions & specimens of what I consider new to Professor Lindley, asking him to communicate them to Dr Hooker should he not have them, and to cancel my names should he possess them". Mitchell Library Sydney ML A3/6. I have contacted the Royal Horticultural Society of whom Lindley was Director at this time and where Archer would have been writing to him, but they have no correspondence from Archer in their library.

access to the library of the Royal Society of Tasmania,[304] for classification of the specimens.

At the time *Flora Tasmaniae* was published in 1860, Archer and Hooker identified a total of only 74 species,[305] and by 1979, in *The Student's Flora of Tasmania*, Curtis put the figure at 145.[306] According to A.M. Buchanan, in the 2005 edition of *A Census of the Vascular Plants of Tasmania,* there are presently at least 208 recognised species of Tasmanian orchids.[307] This means that in some cases, while Archer identifies an illustration as a certain species, the material may now be referable to a different species.

There has been a recent revival in interest in orchids and there have been a number of major works published that include Tasmanian orchids; *Orchids of Australia*, W Nicholls 1969 (ed. Jones); *The Student's Flora of Tasmania*, W. Curtis 1979; *The Orchids of Tasmania*, D L Jones, H Wapstra, P Tonelli, S Harris 1999; *A Census of the Vascular Plants of Tasmania* 2005 (ed AM Buchanan); and *Australian Orchid Research.* I have used a combination of these to attempt to identify Archer's illustrations, relying on *A Census of the Vascular Plants of Tasmania* 2005 (ed. AM Buchanan) as the principal resource for the current names for the species.

It is a testament to Archer's abilities as an illustrator and botanist that I have been able to identify as many of the illustrations by their current nomenclature as I have.

The Tasmanian Museum and Art Gallery Illustrations Identified

The recognition of so many new species and the reclassifications of others has led to a deal of confusion regarding the names of the orchids illustrated by Archer. For example, even the orchid named in his honour *Prasophyllum archeri* Hook.f., has been transferred to a different genus, *Genoplesium*, and it is currently recognised as

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[304] The Royal Society *Papers & Proceedings* of 1850 lists *Journal of Botany, Elements of Botany, Kew Gardens Guide, Icons Plantarium,* and *Botany of Antarctic Voyage* as books held in the library. It would seem probable that Archer would also have used these books as references.

[305] J. Hooker, *Flora Tasmaniae*, 1843–60, *Part III, vol. II*, Introduction.

[306] W. Curtis, *The Student's Flora of Tasmania, Parts 1–4a, b,* 1975–1979.

[307] A. Buchanan, *A Census of the Vascular Plants of Tasmania*, (ed.), Tasmanian Herbarium Occasional Publication No. 7, Hobart, Tasmanian Museum and Art Gallery, 2005, p.68–76.

Corunastylis archeri (Hook.f.) D.L. Jones & M.A. Clem.[308] All the Tasmanian *Prasophyllum* species classified as *Genoplesium* have recently been transferred to *Corunastylis* by Jones and Clements.

Following is a summary of the identification of the TMAG illustrations. Appendix 1 shows Archer's name for the orchid, the current name, and, in detail, my reasons for identifying it as I have.

A number of the TMAG illustrations are incomplete pencil sketches, and can be identified to a genus but no further. In some cases Archer himself was unable to identify the illustrations with complete confidence, and as noted previously, he came to realise that some drawings eg. *Prasophyllum* include more than one species.

Dr Andrew Rozefelds, Deputy Director, Collections and Research, TMAG, had started work on identifying some of the TMAG illustrations before I commenced this project, and his identifications are contained in Table 3, Appendix 7. A number of the TMAG illustrations are pencil sketches of the plants, or some of the dissections, and as such are impossible to identify further than to genus level. Where neither Dr Rozefelds nor I could identify the species with confidence, I have left the identification of Archer or Lindley.

Of the 33 illustrations in the TMAG collection, Dr Rozefelds has identified 13 as far as possible (I have updated the name in two cases), and the remaining 20 have been identified as far as possible by myself. Of the 33 illustrations contained in the TMAG collection, 15 have been identified to species level. The remaining 18 have been identified to genus level only.

To identify the illustrations I have used a combination of:

- keys, descriptions and photographs by Jones et al. in *The Orchids of Tasmania* and *Australian Orchid Research*,
- Archer's illustrations,

[308] A. Buchanan (ed.), *A Census of the Vascular Plants of Tasmania, and index to The Student's Flora of Tasmania*, Fourth Edition, Tasmanian Herbarium Occasional Publication No 7, 2005, p.68–76.

- Archer's descriptions on the drawings,
- *Flora Tasmaniae* plates, and
- descriptions by JD Hooker and Archer.

Flora Tasmaniae and Linnean Society Illustrations Identified

Following is a summary of the identification of the *Flora Tasmaniae* and Linnean Society illustrations. Appendix 1 shows Archer's name for the orchid, the current name, and, in detail, my reasons for identifying it as I have.

The Linnean Society illustrations were, with the exception of *Pterostylis nutans* R.Br., the basis of *Flora Tasmaniae* plates, and for the purposes of identification, I have treated the two – the Linnean Society and the *Flora Tasmaniae* – as one set in my identification of the orchids illustrated by Archer. In the cases where there is no Archer original, I have not identified the orchid, as changes made by Fitch (as discussed in Chapter 3) and the possible use of more than one original drawing to show a single species may influence the accuracy of the illustration.
Archer's skills as a botanical illustrator is shown in his drawing of *Corybas diemenica* Lindl. – identified as *Corysanthes fimbriatus* Br. by Archer and Hooker in *Flora Tasmaniae*.[309] In his description of this orchid Hooker writes:

> Common in various parts of the Island. Lindley distinguished this [Archer's illustration?] doubtfully as a different species from *C. fimbriata*, from its having larger flowers and less fimbriated margins to the labellum; but I find both the flowers and leaves to be extremely variable in absolute and relative size.[310]

[309] J. Hooker, *Flora Tasmaniae*, 1843–60, .p16.
[310] J. Hooker, *Flora Tasmaniae*, 1843–60, p.16.

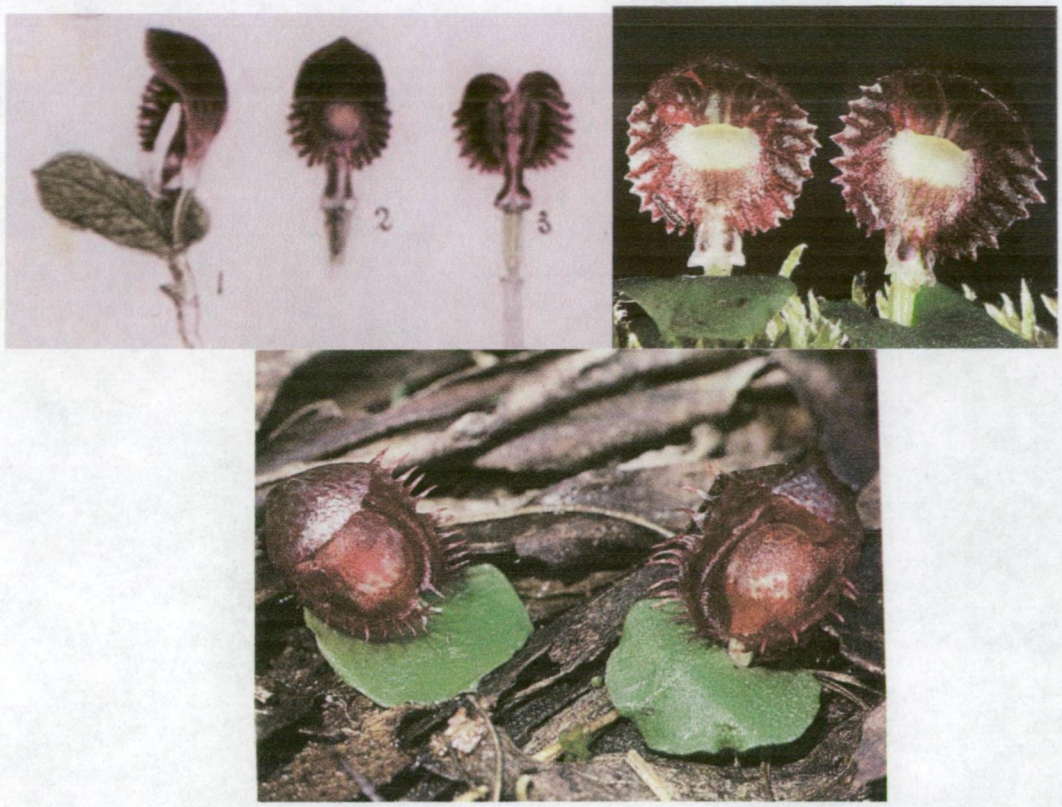


Figure 33: A comparison of Archer's illustration [top left] *and photograph of* Corysanthes diemenica *Lindl.,* [top right] *and* C. fimbriata *R.Br.* [bottom]

While it is impossible to know how many specimens Hooker was looking at when he arrived at his opinion, he ultimately recognised only one species of *Corysanthes*, whereas today there are three species of *Corysanthes* recorded from Tasmania (*C. diemenica* Lindl., *C. fimbriata* R.Br. and *C. incurva* D.L.Jones & M.A.Clem.).[311] An examination of Archer's illustration shows that he was clearly illustrating *C. diemenica* and that his illustration cannot be confused with that of any other species of that genus (Fig. 33).

Of the 36 illustrations contained in the Linnean Society folio, I have been able to identify 32 to species. The remaining four have been identified to genus only.

[311] A. Buchanan (ed.), *A Census of the Vascular Plants of Tasmania, and index to The Student's Flora of Tasmania*, Fourth Edition, Tasmanian Herbarium Occasional Publication No 7, 2005, p.70.

Distribution

Appendix 1 shows a comparison of the distribution of the orchids at Archer's time and at present.

According to Jones: "We know that close to half of our endemic orchids are in the two highest categories of threat...many of the non-endemic species are in a similar position."[312] He goes on to say; "Outright loss of habitat is the most severe threat to native species. This has occurred mostly in the form of clearing for pasture development",[313] and of course most of Archer's collecting was in, what is now, prime pasture land on his Cheshunt property and the surrounding areas, as well as the now densely built-up area around Georgetown, so it would seem very likely that a number of species no longer exist in the locations where Archer collected.

As Hooker recognised far fewer species than are known presently, at times a number of what are currently separate species, must be regarded as one in Hooker's discussion on distribution and this could disguise the current vulnerable status of some species. In the cases where I cannot identify an orchid, it is possible that Archer may have illustrated an orchid that may now be extinct. While Hooker's distribution descriptions for species tends to be either very specific—eg *Cheshunt*, or quite vague eg *Common throughout the Colony*—it is possible, at times, to combine Hooker's, Archer's and Jones' distributions to identify current distribution for the orchids.

In total five of the orchids illustrated in the TMAG and Linnean Society collections are listed as endemic to Tasmania;[314] *Caladenia angustata* Lindl., and *Simpliglottis triceratops* (D.L.Jones) Jeanes (TMAG); *Prasophyllum alpinum* R.Br., *Pterostylis dubia* R.Br. and *Speculantha aphylla* R.Br. (Linnean Society). There is one species described by Hooker now listed as extinct; *Corunastylis nudiscapa* (Hook.f.) D.L.Jones & M.A.Clem. (*Prasophyllum nudiscum* (Hook.f.) in *Flora Tasmaniae*). Archer did not

[312] D. Jones, et al, *The Orchids of Tasmania*, 1999, p.15.
[313] D. Jones, et al, *The Orchids of Tasmania*, 1999, p.16.
[314] A. Buchanan (ed.), *A Census of the Vascular Plants of Tasmania, and index to The Student's Flora of Tasmania*, Fourth Edition, Tasmanian Herbarium Occasional Publication No 7, 2005

illustrate this species. While no other fully identified species is listed as extinct, their habitats are listed as severely restricted in many cases.

In this chapter, I have shown Archer's ability both as a botanist and also as a botanical illustrator by using his illustrations and notes to identify his orchid drawings. Archer collected most of his orchids around his property at Cheshunt or near Woolmers and George Town. These areas are now prime agricultural or densely urban areas, and while none of the orchids Archer drew are listed as extinct they are no longer found in the locations he collected.

CONCLUSION

At the commencement of this project little was known about the set of botanical illustrations that had been donated to the Tasmanian Museum and Art Gallery, or their artist William Archer. It was however believed that a number of the illustrations may have been used as the basis for plates in Joseph Hooker's *Flora Tasmaniae,* a work for which Archer was known to have made orchid illustrations.

The aims of the research were to establish the significance of these works in the history of Tasmanian and Australian botanical illustration. They comprise the only known works in Australia of an artist who is recognised as the first Australian born botanical artist.

A number of the illustrations were used as the basis for the *Flora Tasmaniae* plates. A further collection of Archer's orchid illustrations has been found to be held by the Linnean Society in London. All but one of the Linnean Society illustrations was used as the basis for the *Flora Tasmaniae* plates. Hewson writes that *Flora Tasmaniae* is: "historically one of the most valuable published on Australian flora. It was written at the time of the debate and controversy over Charles Darwin's theory of evolution of species. Darwin and Hooker collaborated, and Hooker's observations in the essay certainly support Darwin's theory. The Tasmanian Government provided funds to assist the publication of this important essay. It was Archer who helped facilitate publication of *Flora Tasmaniae* through securing a government grant and his through his own financial support.

Up until now there has often been the assumption that Walter Hood Fitch had been the joint illustrator of the orchid plates in *Flora Tasmaniae* (his name being on the plates as joint illustrator), using Archer's illustrations as a guide for his work only, however, my comparisons of Archer's originals and the *Flora Tasmaniae* plates show that although Fitch did lithograph the plates, the illustrations were essentially Archer's work. In fact, in some cases where small changes were made to Archer's original work, these changes at times affected the botanical accuracy of the drawings.

While it has been previously acknowledged that Archer illustrated the orchid section of *Flora Tasmaniae*, he also prepared the illustrations of a number of the fungi plates.

During the research on Archer's contribution to the orchid illustrations in *Flora Tasmaniae* it became evident that he also contributed significantly in the botany of the publication. Hooker relied on Archer's first-hand knowledge of the Tasmanian native plants and sought his scientific advice on innumerable occasions, as is noted in the Introduction of *Flora Tasmaniae.* My work in identifying the species illustrated by Archer (and transcribing his notes on the illustrations), indicates that Archer was a keen and knowledgeable observer of the orchids he drew. Through his accurate dissections, illustrations and detailed notes it is possible to refer these drawings to modern species concepts.

That Archer had assembled a herbarium arguably unequalled in Tasmania at the time was previously unknown. Hooker refers to his use of this collection throughout the preparation of *Flora Tasmaniae*. Letters held by the Royal Society of Tasmania written by Hooker and Spicer after Archer's death confirm the scope and scientific value of this collection. That it was eventually purchased by Hooker and became absorbed into the Kew collection has been a great loss to Tasmania.

Appendices 1, 2 and 3: The Illustrations–Details of Research

Appendices 1, 2 and 3 contain the details of research on the Tasmanian Museum and Art Gallery, Linnean Society and *Flora Tasmaniae* illustrations combined into one concise table.

Appendices 1 and 2 show (where applicable):

- An illustration
- My identification of the orchid in that illustration
- Where and when that name was first published
- My transcript of Archer's notes on the illustration,

  The transcript shows:

  . details of the orchid and dissections

  . habitat

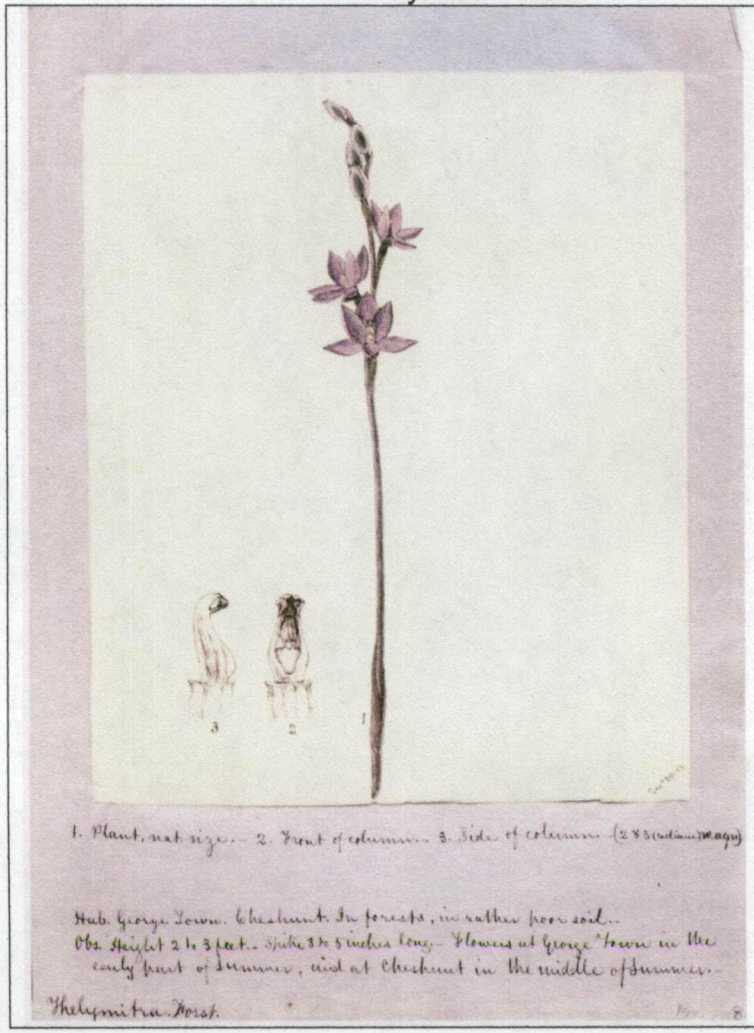
  . observations

  . Archer's identification of the orchid

  . date (if known)
- Comparison of distribution of that orchid from *Flora Tasmaniae* to the present
- Whether or not the illustration was used in *Flora Tasmaniae*
- The meaning of the scientific name
- The common name
- The TMAG illustrations also show:
- TMAG identification number
- Size
- Whether or not the illustration is framed.
- Appendix 3 shows the *Flora Tasmaniae* illustrations and notes on the dissections.

APPENDIX 1: Tasmanian Museum and Art Gallery Illustrations*

Thelymitra Forst. AG7686 210 x 170 mm unframed



Identification of Illustration

Thelymitra [identification A. Hansen]
The pencil dissections of the column included in this illustration indicate that this is a species of *Thelymitra*, however it is not possible to key it out further. *Thelymitra* Forst. [identification by W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size–2. Front of column–3. Side of column–(2 & 3 (4 diam.) magn).

Hab. George Town. Cheshunt. In forests, in rather poor soil.–

Obs. Height 2 to 3 feet [600 to 900 mm].– Spike 3 to 5 inches [75 to 125 mm] long.– Flowers in George Town in the early part of Summer, and at Cheshunt in the middle of Summer.–

Date: Dec 20 1853

Comparison of Distribution

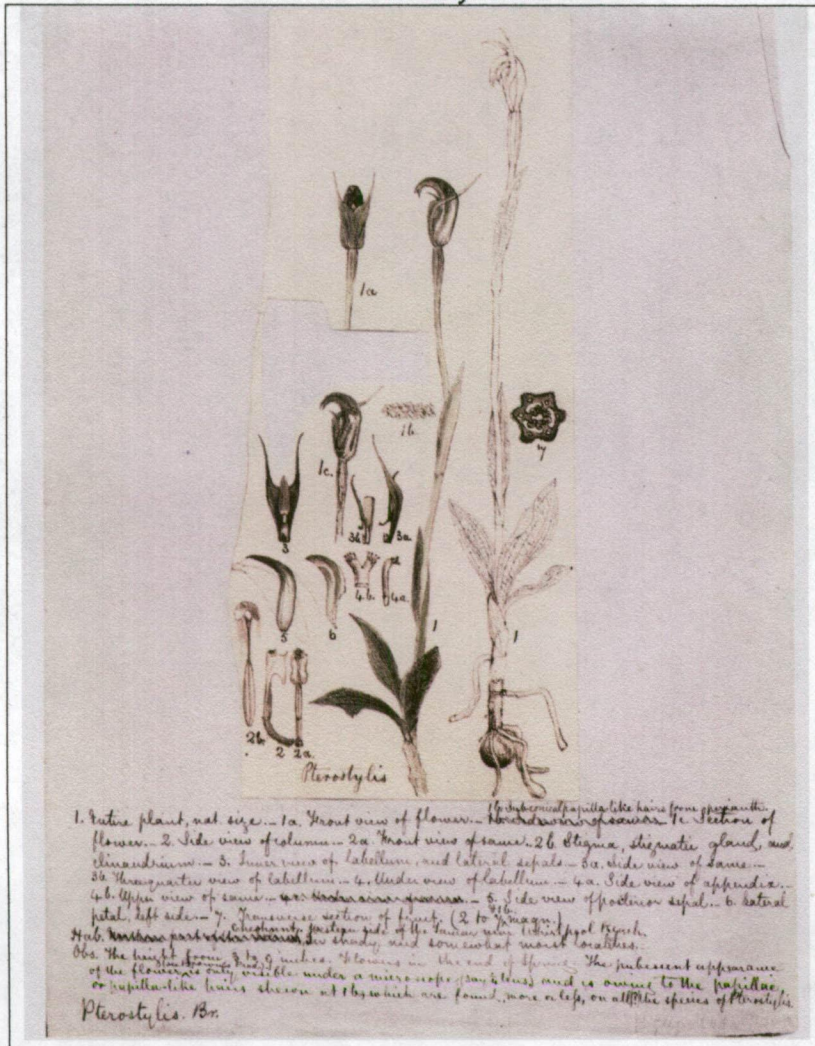
As this illustration cannot be fully identified, comparison of distribution is impossible.

Illustration used in *Flora Tasmaniae* (*Acianthus exsertus* Br.)

Thelymitra: thelys female; *mitra* cap

* Illustrations have been arranged by TMAG number rather than alphabetically under Archer's classification, as current genera and species names may be different to Archer's identification.

Pterostylis R.Br. AG7687 25 x 100 mm unframed



1. Entire plant, nat. size.– 1a. Front view of flower.– 1b. sub-conical papilla-like hairs from perianth
flower.– 2. Side view of column.– 2a. Front view of same.– 2b. Stigma, stigmatic gland, and
clinandrium.– 3. Inner view of labellum, and lateral sepals.– 3a. Side view of same.–
3b. Three-quarter view of labellum.– 4. Under view of labellum.– 4a. Side view of appendix.–
4b. Upper view of same.– 5. Side view of posterior sepal.– 6. Lateral
petal, left side.– 7. Transverse section of fruit. (2 to 7 & 1b magn.)
Hab. Cheshunt. Western side of the Tamar River Whirlpool Reach.
Obs. The height from 3 to 9 inches. Flowers in the end of Spring. The pubescent appearance
of the flower as only visible under a microscope (say ¼ lens.) and is owing to the papillae
or papilla-like hairs shown at 1b which are found, more or less, on all the species of Pterostylis.
Pterostylis. Br.

Identification of Illustration

Pterostylis [identification A. Rozefelds]
Cannot key out further. Jones and Clements have recently revised *Pterostylis*, and the Tasmanian members have been split into several genera including; *Bunochilus, Crangonorchis, Diplodium, Hymenochilus, Linguella, Oligochaetochilus, Plumatichilos, Speculantha,* and *Taurantha.*

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Front view of flower.– 1b. sub-conical papilla-like hairs from perianth flower.– 2. Side view of column.– 2a. Front view of same.– 2b. Stigma, stigmatic gland, and clinandrium.– 3. Inner view of labellum, and lateral sepals.– 3a. Side view of same.– 3b. Three-quarter view of labellum.– 4. Under view of labellum.– 4a. Side view of appendix.– 4b. Upper view of same.– 5. Side view of posterior sepal.– 6. Lateral petal, left side.– 7. Transverse section of fruit. (2 to 7 & 1b magn.)

Hab. Cheshunt. Western side of the Tamar River Whirlpool Reach. In shady and somewhat moist localities.–

Obs. The height from 3 to 9 inches [75 mm to 230 mm]. Flowers in the end of Spring. The pubescent appearance of the flower (see Brown's Prod.) is only visible under a microscope (say ¼ lens.) and is owing to the papillae or papilla-like hairs shown at 1b; which are found, more or less, on all (?) the species of *Pterostylis*.

Pterostylis. Br. ? *P. pedunculata* R. Br.
No date

Comparison of Distribution

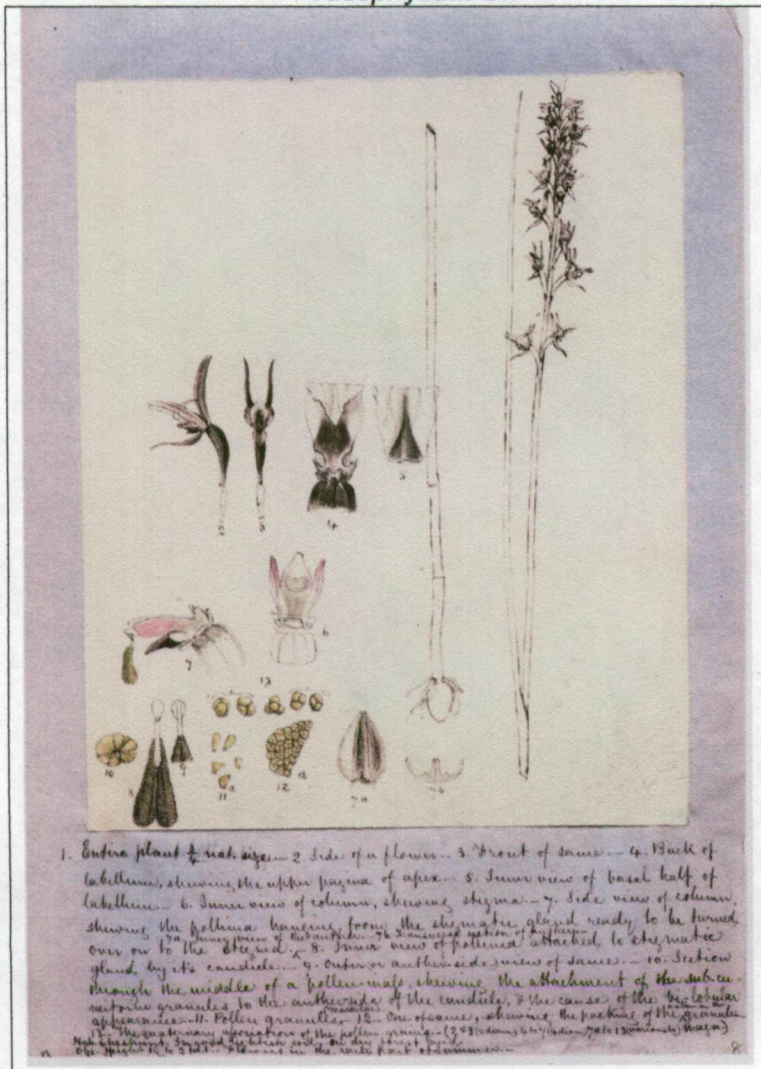
As this illustration cannot be fully identified, comparison of distribution is impossible.

This illustration appears to have been used in *Florae Tasmaniae* as *P. pedunculata* R.Br.

Pterostylis: pteron wing: *stylis* style or column

Prasophyllum Br.

AG7688 210 x 170 mm unframed



Identification of Illustration

Prasophyllum [identification A. Hansen]
Cannot key out further. Jones and Clements have recently revised this genus, and all the Tasmanian species of *Prasophyllum* that had previously been classified as *Genoplesium* (including archeri) have been transfered to *Corunastylis*.
Prasophyllum [identification W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant ¾ nat. size.– 2. Side of a flower.– 3. Front of same.– 4. Back of labellum, showing the upper pagina of apex.– 5. Inner view of basal half of labellum.– 6. Inner view of column, showing stigma.– 7. Side view of column, showing the pollinia hanging from the stigmatic gland ready to be turned over on to the stigma.– 7a. Inner view of the anther.– 7b. Transverse section of the anther.– 8. Inner view of pollinia attached to the stigmatic gland by it's caudicle.– 9. Outer (or anterior side) view of same.– 10. Section through the middle of a pollen mass, showing the attachment of the sub.cuneiform granules to the anther-side of the caudicle, & the cause of the bi-lobular appearance.– 11. Pollen granules (massulae).– 12. One of same, showing the packing of the pollen in the granule.– 13.– The quarternary association of the pollen grains.– (2 & 3 (2 diam.) 4 to 7 (4 diam.) 7a to 13 (variously) magn.)

Hab. Cheshunt. In good, lightish soil.– On dry forest land.

Obs. Height. 1½ to 2 feet [450 mm to 600 mm].– Flowers in the early part of Summer.

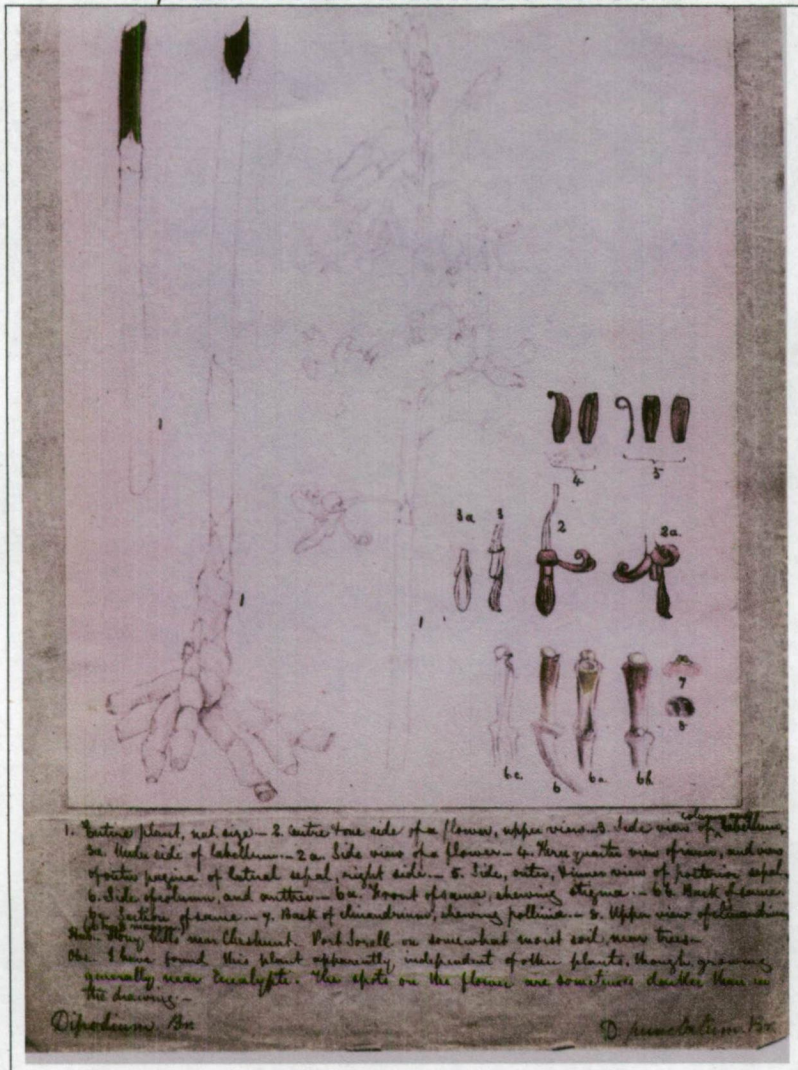
Prasophyllum. Br.
Date: Dec 12 ?

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf

Dipodium roseum D.L.Jones & M.A.Clem. AG7689 230 x 185 mm unframed



Identification of Illustration

Dipodium roseum D.L. Jones & M.A. Clem. [identification A. Rozefelds]
Although this illustration is incomplete, Archer's illustration is adequate for identification.

Where the Name was First Published

Dipodium roseum D.L.Jones & M.A.Clem., Austral. Orchid Res. 2:51 (1991)

Transcript of Archer's Notes

\1. Entire plant, nat. size.– 2. Centre & one side of a flower, upper view.– 3. Side view of column & labellum.– 3a. Under side of labellum.– 2a. Side view of a flower.– 4. Three quarter view of inner, and view of outer pagina of lateral sepal, right side.– 5. Side, outer, & inner view of posterior sepal.– 6. Side of column, and anther.– 6a. Front of same, showing stigma.– 6b. Back of same. 6c. Section of same.– 7. Back of clinandrium, showing pollina.– 8. Upper view of clinandrium. (6 to 8 magn.)

Hab. Stony Hills near Cheshunt. Port Sorell on somewhat moist soil, near trees.–

Obs. I have found this plant apparently independent of other plants, though growing generally near eucalypti. The spots on the flower are sometimes darker than in the drawing.

Dipodium. Br. *D. punctatum.* Br.

No date

Comparison of Distribution

Flora Tasmaniae: Circular Head, Port Sorrell, Cheshunt

Current : Locally quite common in lowland areas up to 400 m in south-eastern, eastern and northern Tas. including islands of the Furneaux Group. p. 131

Illustration used in *Flora Tasmaniae* (*Dipodium punctatum* R. Br.)

Dipodium: dis two: *podion* little foot

Hyacinth orchid

Note: This is a very faint pencil sketch.

Identification of Illustration

Pterostylis ?cycnocephala Fitzg. [identification A. Rozefelds]
Archer's notes on habitat and flowering season indicate this is most likely to be *P. cycnocephala* Fitz. The current name for *P. cycnocephala* is *Hymenochilus cycnocephala* (Fitzg.) D.L.Jones & M.A.Clem.

Where the Name was First Published

Hymenochilus muticus (R.Br.) D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 74 (2002)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Front view of a flower.– 3. Side view of same.– (2 & 3 slightly magn.)

Hab. Woolmers, near Longford, on dry ground in light soil.

Obs. This seems to be a very rare species, or perhaps only a var. of P. mutica. I have only two specimens. Flowers in the end of Spring.

Pterostylis. Br.

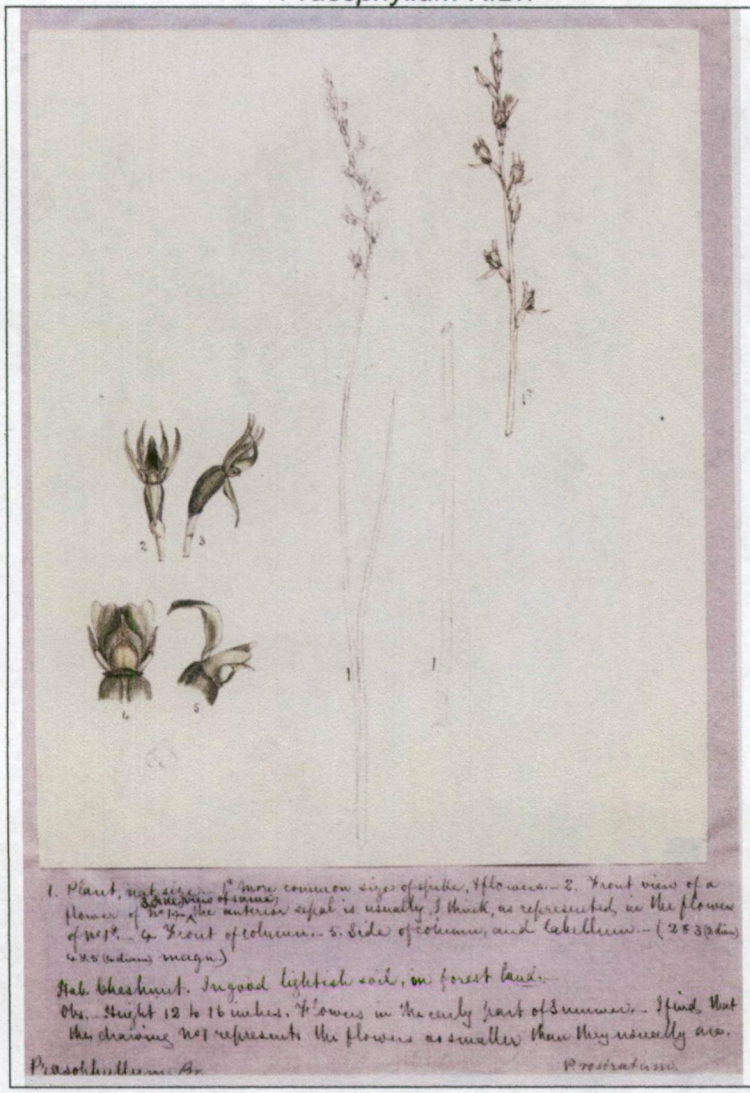
Date: Nov 2

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

This illustration was used in *Florae Tasmaniae* as *P. mutica* R.Br.

Hymenochilus: hymen membrane: *cheilos* lip



Identification of Illustration

Prasophyllum [identification A. Hansen]
This illustration cannot be keyed out further. Possibly *P. lindleyanum* Rchb. f. See notes on *Prasophyllum* above.
Prasophyllum rostratum Lindl. [identification W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size.– 1* More common size of spike, & flowers.– 2. Front view of a flower of No1.– 3. Side view of same; the anterior sepal is usually, I think, as represented in the flowers of No1*.– 4. Front of column.– 5. Side of column, and labellum.– (2 & 3 (2 diam) 4 & 5 (4 diam) magn.)

Hab. Cheshunt. In good lightish soil, on forest land.

Obs. Height 12 to 16 inches [300 to 400 mm]. Flowers in the early part of Summer.– I find that the drawing No1 represents the flowers as smaller than they usually are.

Prasophyllum Br.
P. rostratum.

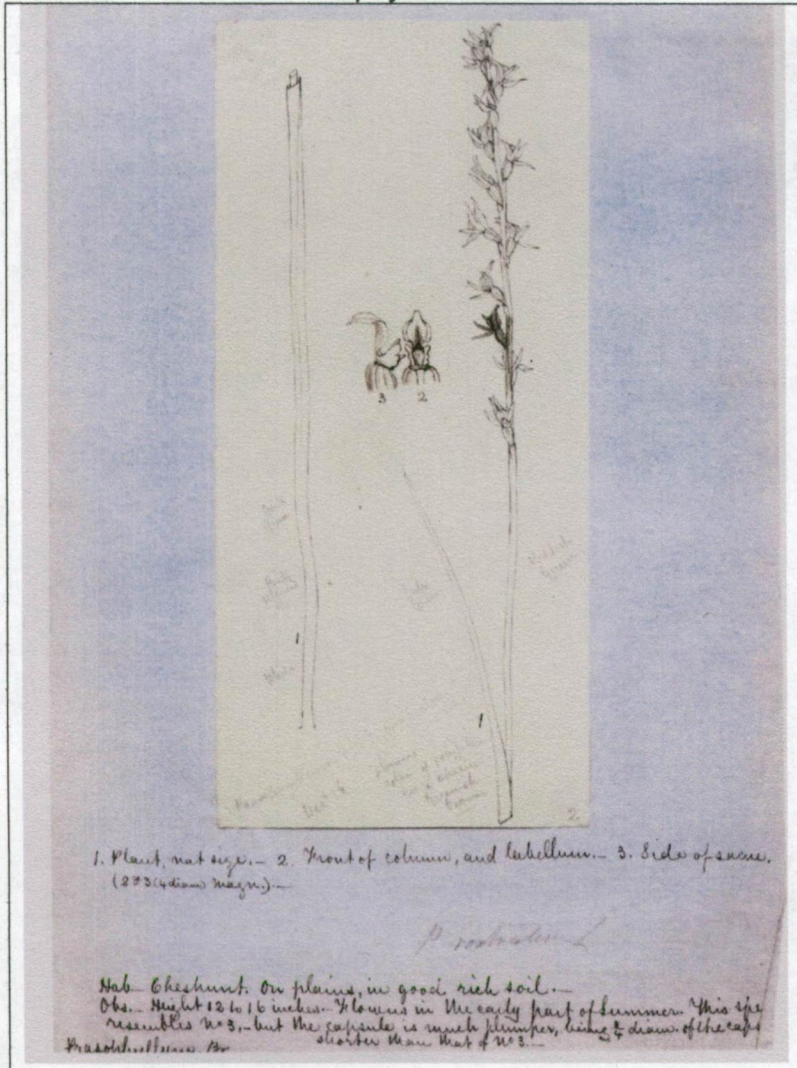
No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf

Prasophyllum R.Br. AG7692 230 x 105 mm unframed



Identification of Illustration

Prasophyllum [identification A. Hansen]
This incomplete pencil illustration cannot be keyed out further. See notes on *Prasophyllum* above.
Prasophyllum rostratum Lindl. [identification J. Lindley]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size.– 2. Front of column, and labellum.– 3. Side of same. (2 & 3 (4 diam) magn.).–

Hab. Cheshunt. On plains, in good rich soil.–

Obs. Height 12 to 16 inches [300 to 400 mm].– Flowers in the early part of Summer. This spe resembles No3,– but the capsule is much plumper, being ¾ diam. Of the caps shorter than that of No 3.–

Prasophyllum. Br.

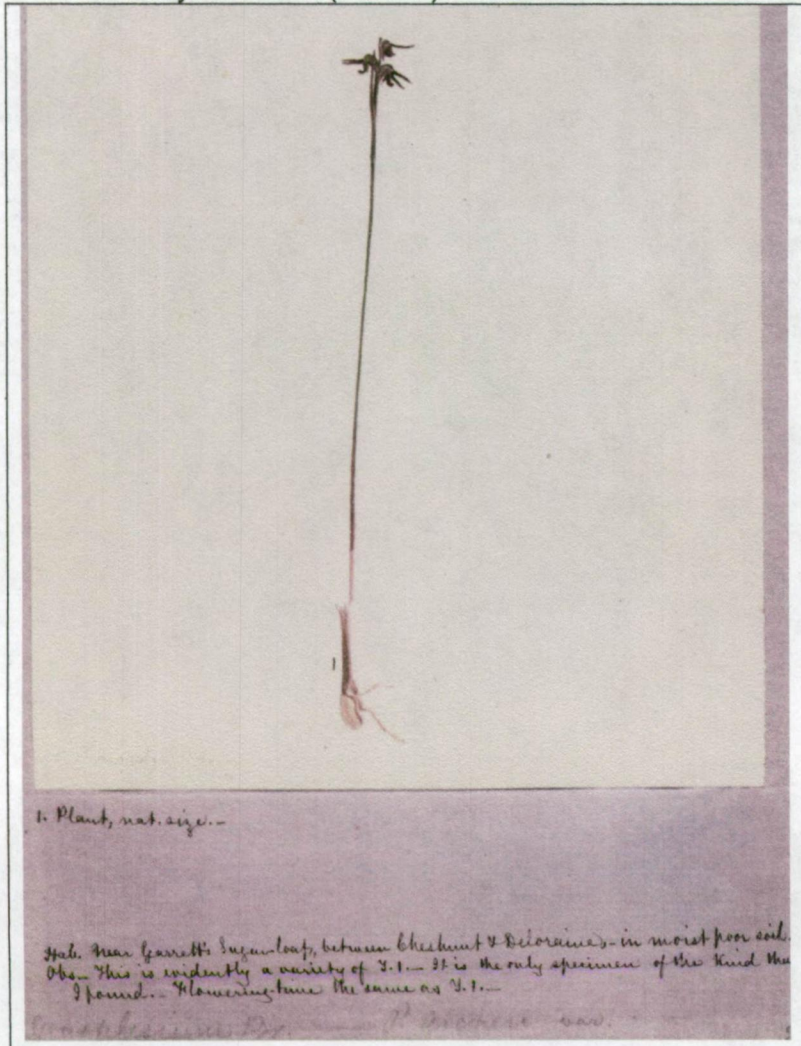
Date: Dec 18 ?

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf

Corunastylis archeri (Hook.f.) D.L.Jones & M.A.Clem. AG7693 230 x 185 mm unframed



Identification of Illustration

Corunastylis [identification A. Hansen]
It is impossible to key this further. Archer named this as *Prasophyllum*, and Lindley named it as a var. of *P. archeri*. A comparison with *C. archeri* (AG7706) and clearly shows that Archer was drawing a different species in this illustration. See notes on *Prasophyllum* above.

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size

Hab. Near Garrett's Sugar-loaf, between Cheshunt and Deloraine,– in moist poor soil.

Obs. This is evidently a variety of F.1. – It is the only specimen of the kind that I found.– Flowering–time the same as F.1.

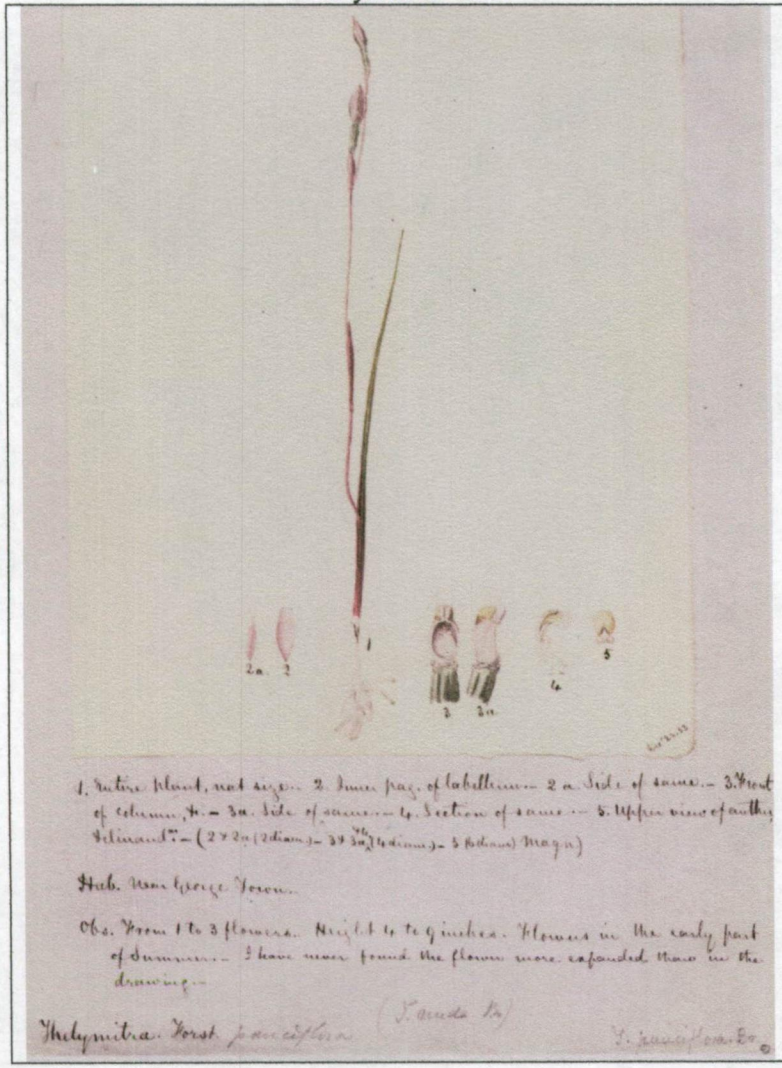
? *Genoplesium* R. Br. *archeri* var.

no date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Corunastylis: *koryne* club: *stylos* column or pillar



Identification of Illustration

Thelymitra [identification A. Hansen]
It is not possible to key this out further.
Thelymitra pauciflora Forst. [identification by W. Archer/J. Lindley]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Inner pag. Of labellum.– 2a. Side of same.– 3. Front of column, etc.– 3a. Side of same.– 4. Section of same.– 5. Upper view of anther, & clinand'm.– (2 & 2a (2 diam.) – 3 & 3a, 4b (4 diam.) – 5 (6 diam) magn.)

Hab. Near George Town.–

Obs. From 1 to 3 flowers. Height 4 to 9 inches [100 to 230 mm]. Flowers in the early part of Summer.– I have never found the flower more expanded than in the drawing.–

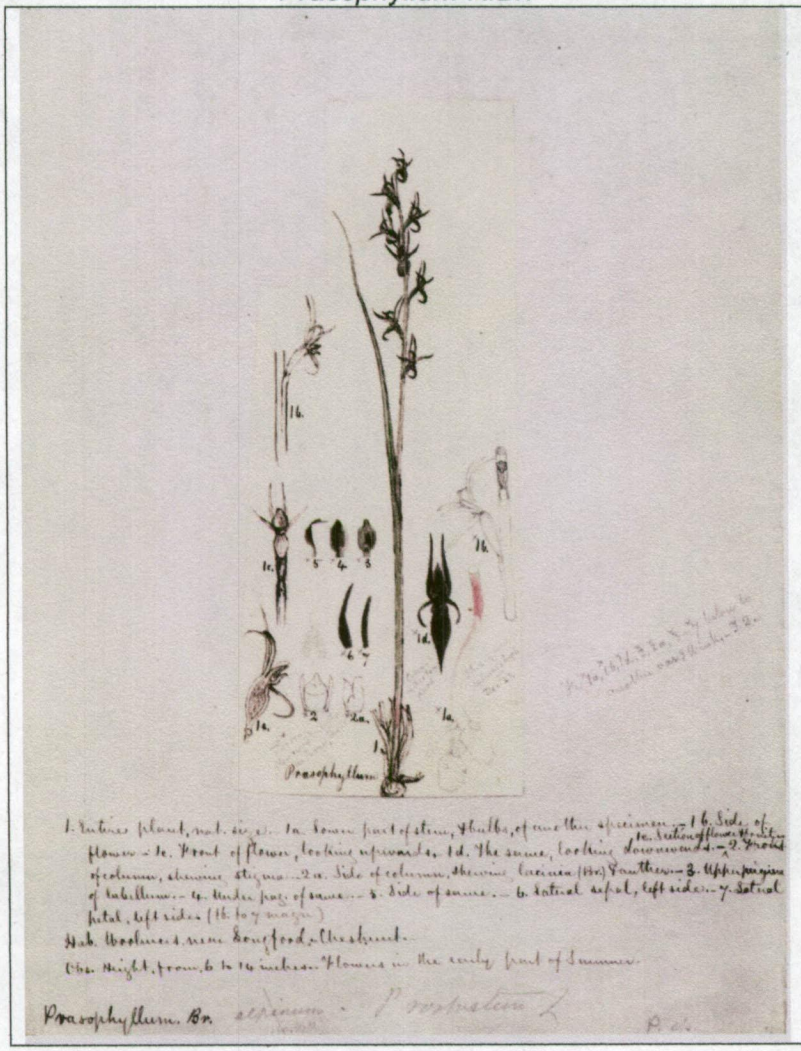
Thelymitra. Forst.
T. pauciflora (Lindl)

Date: Dec 28 1853

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Thelymitra: thelys female; *mitra* cap



Identification of Illustration

Prasophyllum [identification A. Hansen]
Archer's notes on this illustration indicate that more than one species may be represented. See notes on *Prasophyllum* above.
Prasophyllum rostratum Lindl. [identification J. Lindley]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Lower part of stem. & bulbs, of another specimen.– 1b. Side of flower.– 1c. Front of flower, looking upwards.– 1d. The same, looking downwards.– 1e. Section of flower & fruit.– 2. Front of column, showing stigma.– 2a. Side of column, showing lacinia (Br.) & anther.– 3. Upper pagina of labellum.– 4. Under pag. of same.– 5. Side of same.– 6. Lateral sepal, left side.– 7. Lateral petal, left side. (1b. to 7 magn.)

Hab. Woolmers, near Longford.– Cheshunt.–

Obs. Height, from, 6 to 14 inches [150 to 350 mm].– Flowers in the early part of Summer.

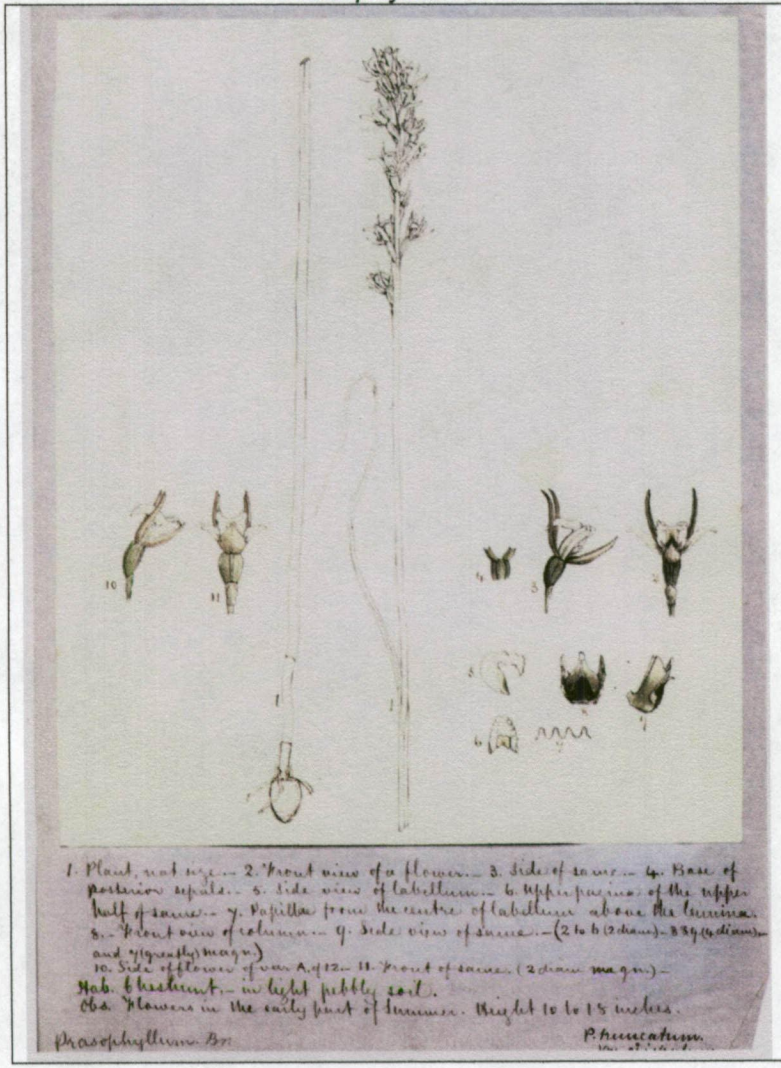
Prasophyllum. Br.

Date: Dec 22 ?

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf



Identification of Illustration

Prasophyllum [identification A. Hansen]
Possibly *P. brevilabre* (Lindl.) Hook. f.
Prasophyllum truncatum var. Lindl. See notes on *Prasophyllum* above. [identification by W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size.– 2. Front view of a flower.– 3. Side of same.– 4. Base of posterior sepals.– 5. Side view of labellum.– 6. Upper pagina of the upper half of same.– 7. Papillae from the centre of labellum above the ??nina.
8.– Front view of column.– 9. Side view of same.– (2 to 6 (2 diam.) – 8 & 9. (4 diam).– and 7 (greatly) magn.) 10. Side of flower of var A. of 12.– 11. Front of same. (2 diam. magn.) –

Hab. Cheshunt,– in light pebbly soil.

Obs. Flowers in the early part of Summer. Height 10 to 18 inches [250 to 450 mm].

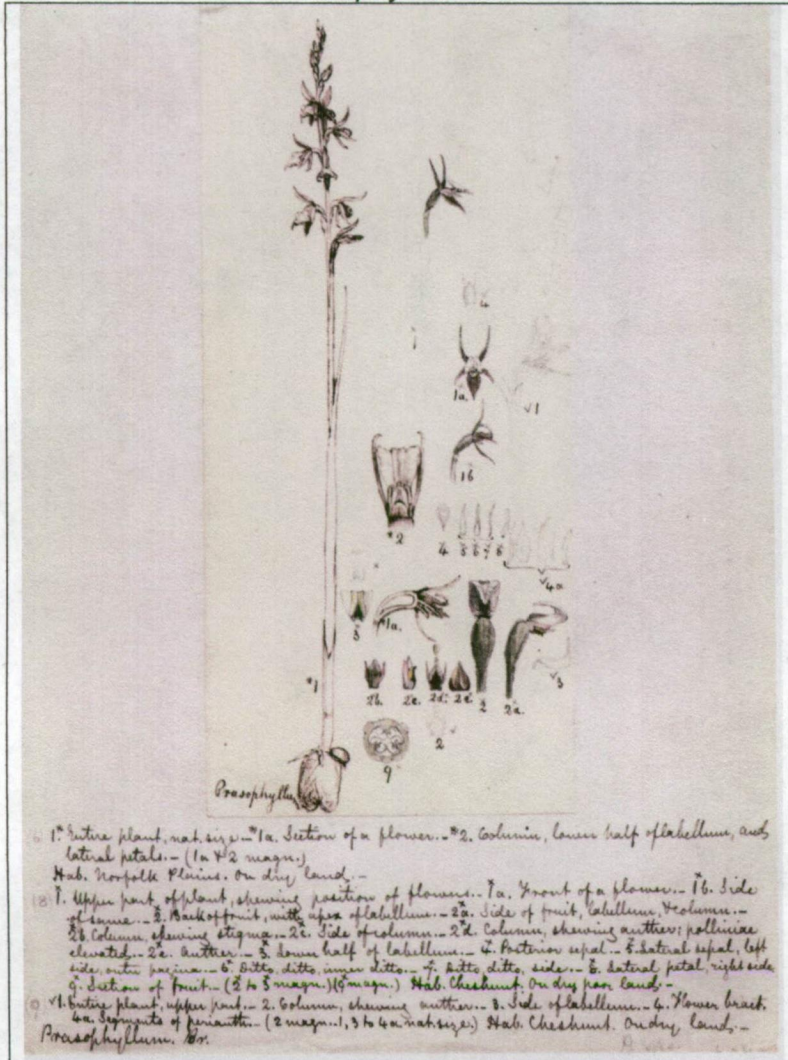
Prasophyllum. Br.
P. truncatum.

No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf



1*. Entire plant, nat. size.– *1a. Section of a flower.– *2. Column, lower half of labellum, and lateral petals.– (1a & 2 magn.)
Hab. Norfolk Plains. On dry land.–
1+. Upper part of plant, showing position of flowers.– 1a+. Front of a flower. 1b+. Side of same.– 2+. Back of fruit, with apex of labellum.– 2a+. Side of fruit, labellum, & column.– 2b+. Column, showing stigma.– 2c+. Side of column.– 2d+. Column, showing anther; polliniae [sic] elevated.– 2e+. Anther.– 3+. Lower half of labellum.– 4+. Posterior sepal.– 5+. Lateral sepal, left side, outer pagina.– 6+. Ditto, ditto, inner ditto.– 7+. Ditto, ditto, side.– 8+. Lateral petal, right side. 9+. Section of fruit.– (2+ to 3+ magn.)(9+ magn.)
Hab. Cheshunt. On dry poor land.–
1. Entire plant, upper part.– 2. Column, showing anther.– 3. Side of labellum.– 4. Flower bract. 4a. Segments of perianth.– (2 magn.– 1, 3 to 4a. nat. size.)
Hab. Cheshunt. On dry land.–

Prasophyllum. Br.
No date

Identification of Illustration

Prasophyllum [identification A. Hansen]
Archer's notes on this illustration indicate that more than one species may be represented. See notes on *Prasophyllum* above.
Prasophyllum [identification W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

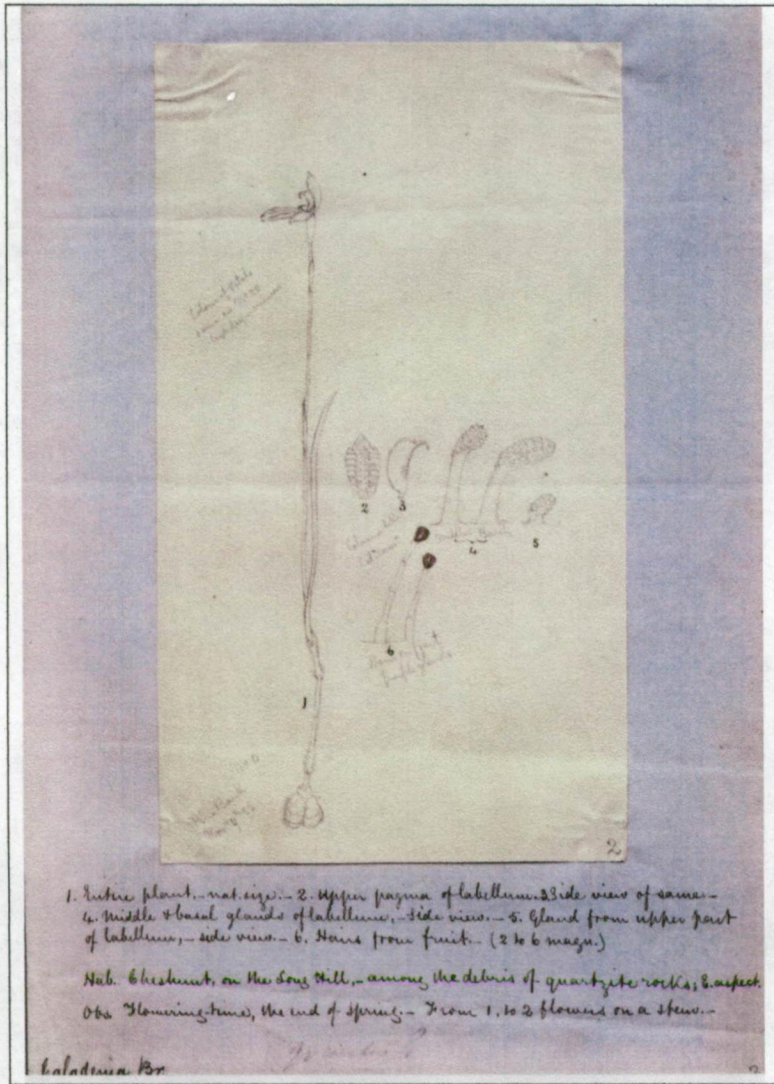
1*. Entire plant, nat. size.– *1a. Section of a flower.– *2. Column, lower half of labellum, and lateral petals.– (1 & 2 magn.)
Hab. Norfolk Plains. On dry land.–
1+. Upper part of plant, showing position of flowers.– 1a+. Front of a flower. 1b+. Side of same.– 2+. Back of fruit, with apex of labellum.– 2a+. Side of fruit, labellum, & column.– 2b+. Column, showing stigma.– 2c+. Side of column.– 2d+. Column, showing anther; polliniae [sic] elevated.– 2e+. Anther.– 3+. Lower half of labellum.– 4+. Posterior sepal.– 5+. Lateral sepal, left side, outer pagina.– 6+. Ditto, ditto, inner ditto.– 7+. Ditto, ditto, side.– 8+. Lateral petal, right side. 9+. Section of fruit.– (2+ to 3+ magn.)(9+ magn.)
Hab. Cheshunt. On dry poor land.–
1. Entire plant, upper part.– 2. Column, showing anther.– 3. Side of labellum.– 4. Flower bract. 4a. Segments of perianth.– (2 magn.– 1, 3 to 4a. nat. size.)
Hab. Cheshunt. On dry land.–

Prasophyllum. Br.
No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf



Identification of Illustration

Caladenia [identification A. Hansen]
This sketch can only be keyed out to a species of *Caladenia*.
Caladenia [identification by W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Upper pagina of labellum.– 3. Side view of same.– 4. Middle & basal glands of labellum,– Side view.– 5. Gland from upper part of labellum,– side view.– 6. Hairs from fruit.– (2 to 6 magn.)

Hab. Cheshunt, on the Long Hill,– among the debris of quartzite rocks; E. aspect.

Obs. Flowering-time, the end of Spring.– From 1, to 2 flowers on a stem.–

Caladenia Br.

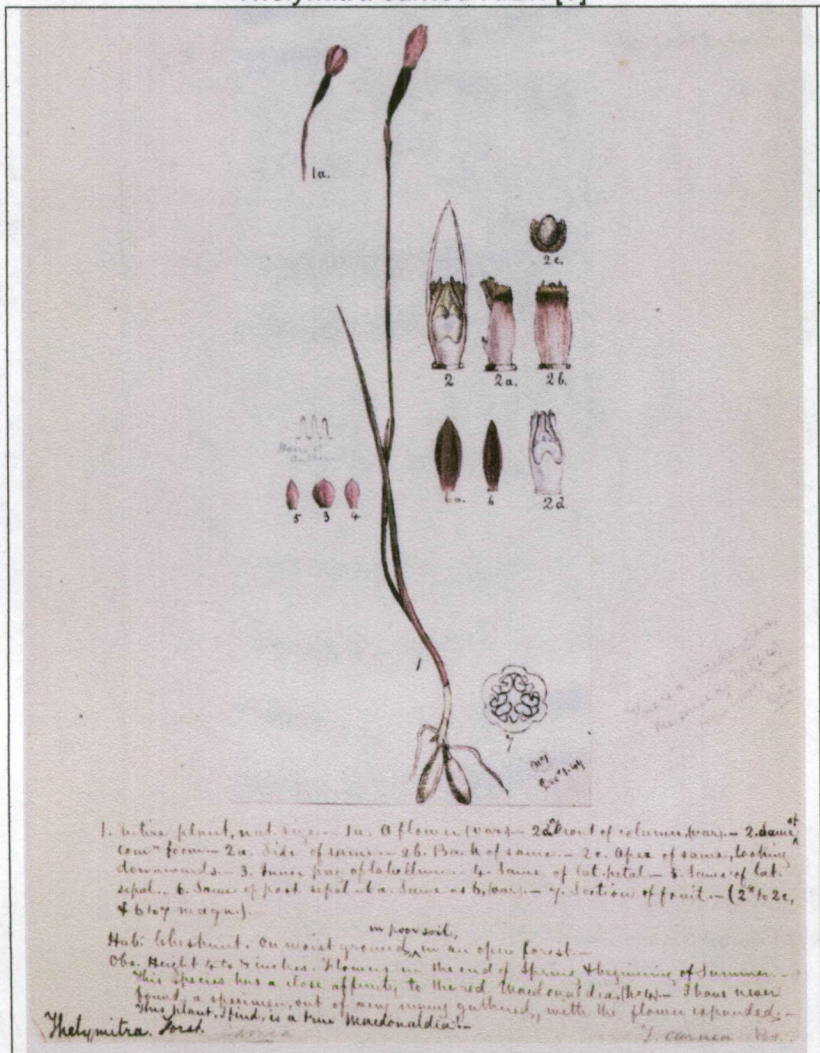
Date: Nov 9 1852

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Caladenia: calos beautiful: *adenos* gland

Thelymitra carnea R.Br. [?] AG7699 255 x 100 mm unframed



1. Entire plant, nat. size.– 1a. A flower (var.).– 2d. Front of column.– 2. Same of com^{n} form.– 2a. Side of same.– 2b. Back of same.– 2c. Apex of same, looking downwards.– 3. Inner pag. Of labellum.– 4. Same of lat. petal.– 5. Same of lat. sepal.– 6. Same of post. sepal.– 6a. Same as 6, (var).– 7. Section of fruit.– (2* to 2c, & 6 to 7 magn.).–

Hab. Cheshunt. On moist ground, in poor soil, in an open forest.–

Obs. Height 4 to 8 inches [100 to 200 mm]. Flowers in the end of Spring & beginning of Summer.– This species has a close affinity to the red *Macdonaldia*, (No 4).– I have never found a specimen, out of very many gathered, with the flower expanded.– This plant, I find, is a true *Macdonaldia*.–

Thelymitra. Forst. *T. carnea*. Br

Date: Dec 1 1849

Identification of Illustration

Thelymitra carnea R. Br. [identification A. Hansen]
The flower in this illustration is not fully in bloom, however the dissections of the column indicate that this is a species of *Thelymitra*, probably *T. carnea*. R. Br.
Thelymitra carnea R.Br. [identification by W. Archer]

Where the Name was First Published

Thelymitra carnea R.Br., Prodr. 314 (1810)

Transcript of Archer's Notes

Comparison of Distribution

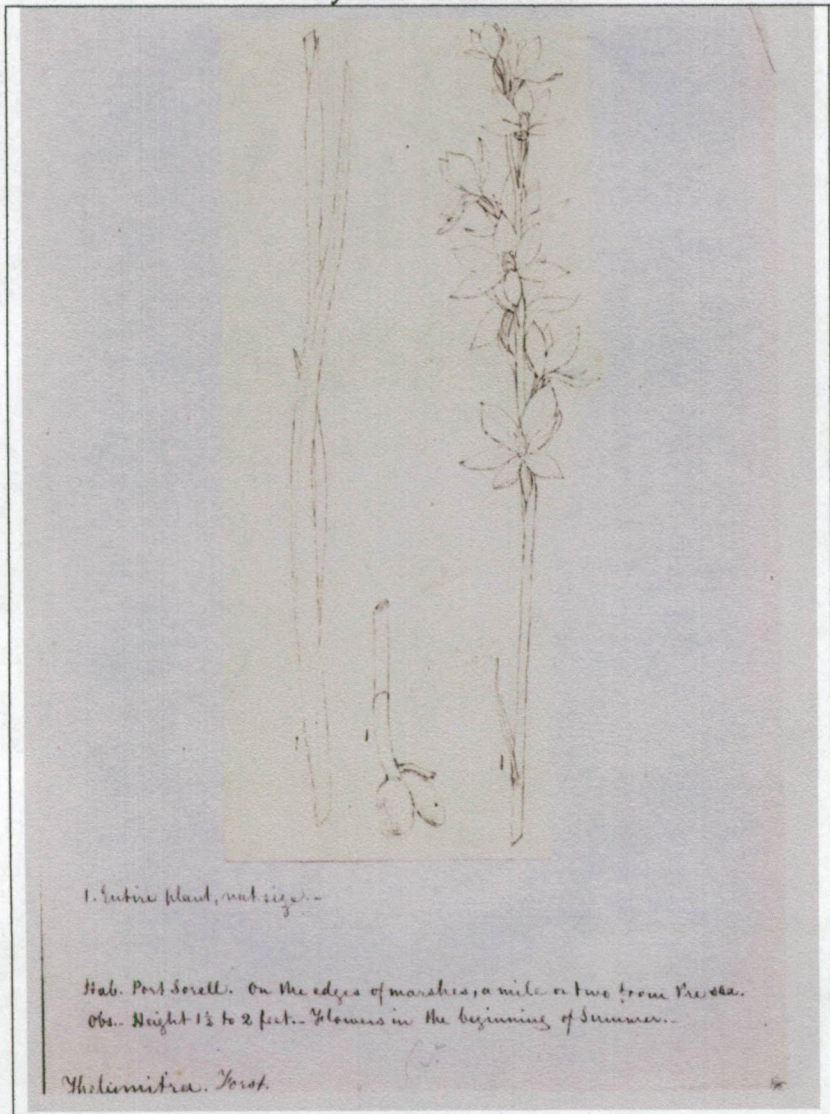
Flora Tasmaniae: Near Hobarton, Georgetown and Cheshunt.

Current: Uncommon and localised in lowland areas up to 300 m in the eastern half of Tasmania, along the north coast…p. 267

Thelymitra: thelys female; *mitra* cap

Tiny sun-orchid

Thelymitra nuda R.Br. AG7700 230 x 105 mm unframed



Identification of Illustration

Thelymitra [identification A. Rozefelds]
This incomplete pencil sketch cannot be keyed out further.

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant, nat. size.–

Hab. Port Sorell. On the edges of marshes, a mile or two from the sea.

Obs. Height 1½ to 2 feet [450 to 600 mm].– Flowers in the beginning of Summer.–

Thelymitra. Forst.

Thelymitra

No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

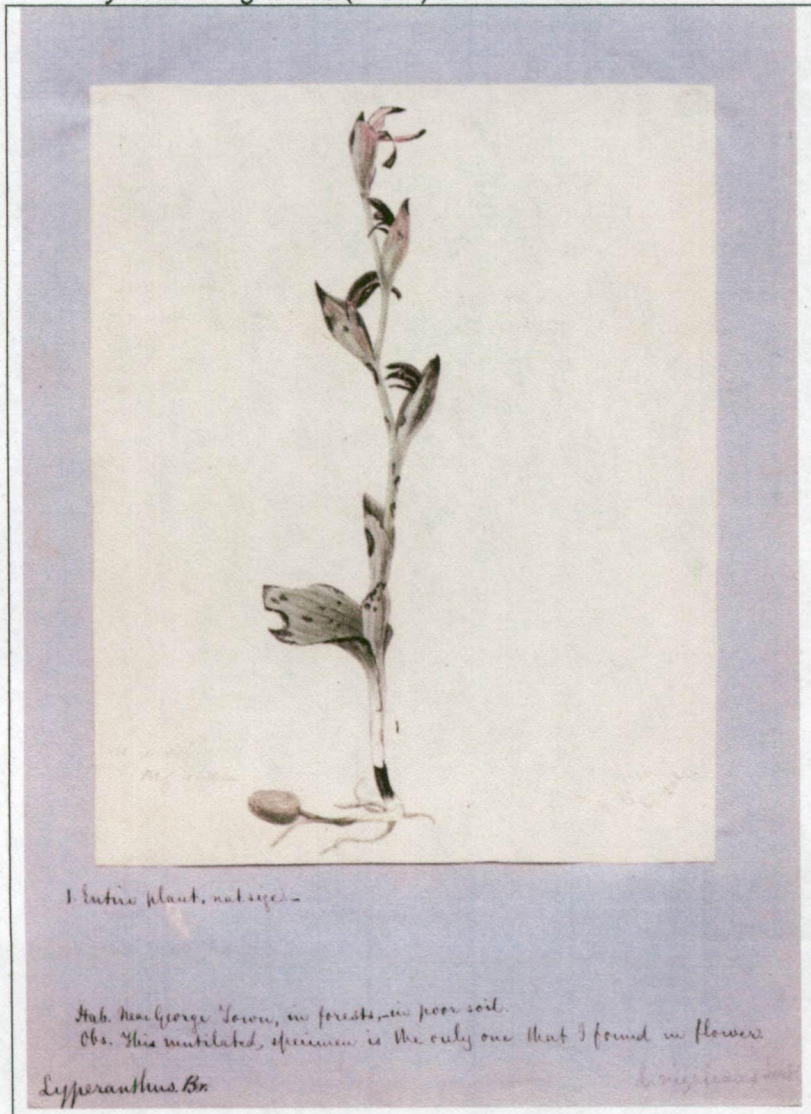
This illustration was used in *Florae Tasmaniae* as *T. nuda* R.Br.

Thelymitra: thelys female; *mitra* cap

Plain sun orchid

Note: This is a very faint pencil sketch.

Pyrorchis nigricans (R.Br.) D.L.Jones & M.A.Clem. AG7701 210 x 160 mm unframed



Identification of Illustration

Pyrorchis nigricans (R. Br.) D.L. Jones & M.A. Clem. [identification A. Hansen]
This illustration can be confidently referred to *Pyrorchis nigricans* (R. Br.) D.L. Jones & M.A. Clem., as only a single species of the genus occurs in the State.

Where the Name was First Published

Pyrochis nigricans (R.Br.) D.L.Jones & M.A.Clems., Phytologia 77(6): 449 (1994)

Transcript of Archer's Notes

1. Entire plant, nat. size.–

Hab. Near George Town, in forests.– in poor soil.

Obs. This mutilated specimen is the only one that I found in flower.

? 10th 53

Lyperanthus.Br.
L. nigricans

Date: Dec 10 1853

Comparison of Distribution

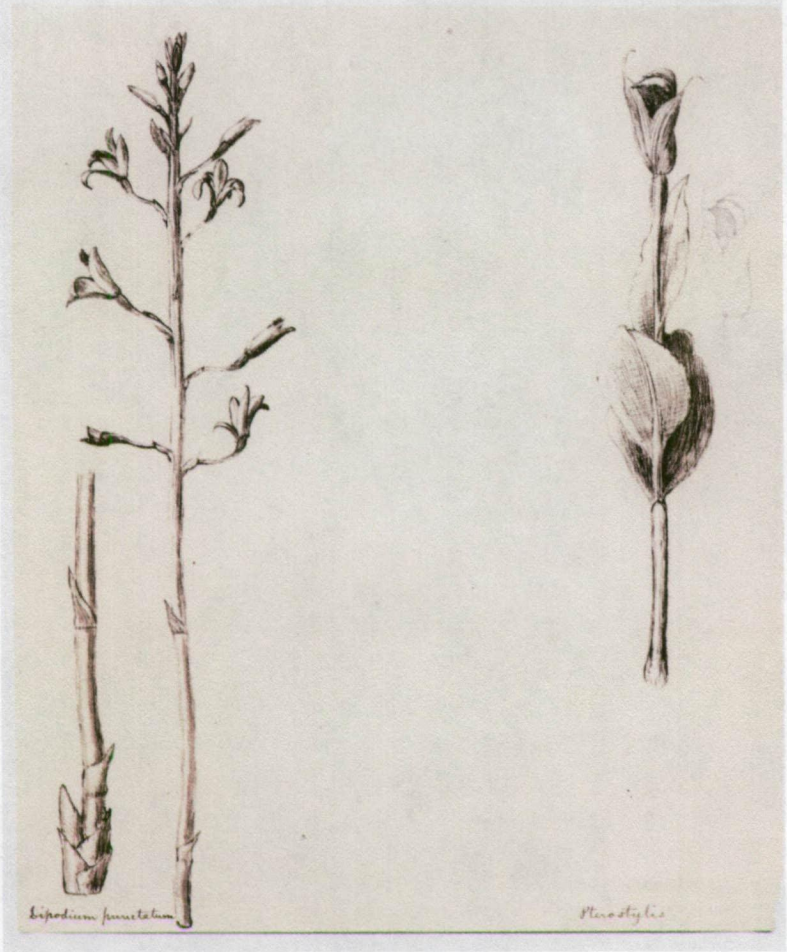
Flora Tasmaniae: Forest near Georgetown.
Current: Widespread and locally abundant in coastal and near-coastal lowland on the Tasman Peninsula and in northern Tasmania…p. 250

This illustration was used for *Lyperanthus nigricans* R.Br. in *Flora Tasmaniae.*

Pyrorchis: pyr fire: *orchis* to indicate an orchid

Fire orchid or Red beaks

Dipodium roseum D.L.Jones & M.A.Clem. AG7702 230 x 190 mm unframed



Identification of Illustration

Dipodium roseum D.L. Jones & M.A. Clem. + *Pterostylis* [identification A. Rozefelds]
A pencil sketch of two orchids, and the one on the left is *Dipodium roseum* D.L. Jones & M. A. Clems., while the drawing on the right cannot be keyed out further than as a species of *Pterostylis*. See notes on *Pterostylis* above.

Where the Name was First Published

Dipodium roseum D.L.Jones & M.A.Clem., Austral. Orchid Res. 2:51 (1991)

Transcript of Archer's Notes

Dipodium punctatum Br.

Dipodium punctatum [drawing above]
Pterostylis [drawing left]

No date

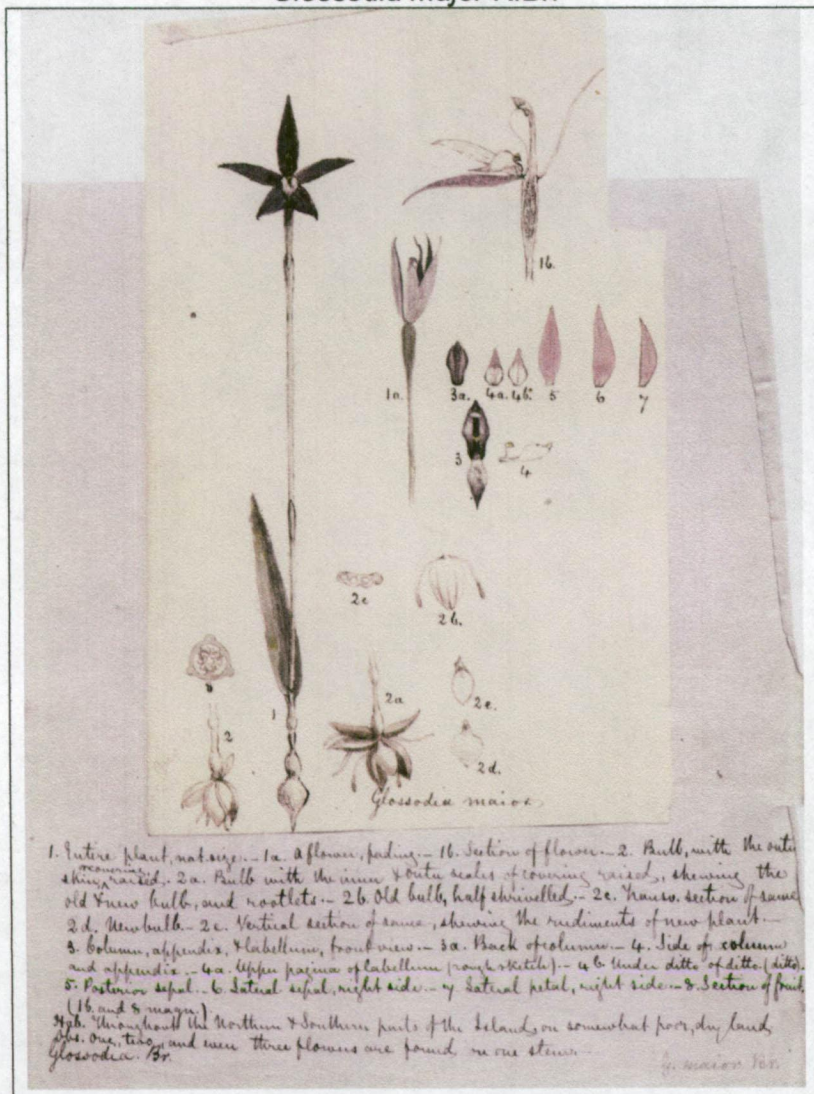
Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Dipodium: dis two: *podion* little foot
Hyacinth orchid

Pterostylis: pteron wing: *stylis* style or column

Glossodia major R.Br. AG7703 230 x 140 mm unframed



1. Entire plant, nat. size.– 1a. A flower, fading.– 1b. Section of flower.– 2. Bulb, with the outer skin or covering raised. 2a. Bulb with the inner & outer scales of covering raised, showing the old & new bulb, and rootlets.– 2b. Old bulb, half shriveled.– 2c. Transv. section of same.– 2d. New bulb. – 2e. Vertical section of same, showing the rudiments of new plant.– 3. Column, appendix, & labellum, front view.– 3a. Back of column.– 4. Side of column and appendix.– 4a. Upper pagina of labellum (rough sketch).– 4b. Under ditto of ditto. (ditto). 5. Posterior sepal.– 6. Lateral sepal, right side.– 7. Lateral petal, right side.– 8 Section of fruit. (1b. and 8 magn.)

Hab. Throughout the Northern & Southern parts of the Island, on somewhat poor, dry land.

Obs. One, two and even three flowers are found on one stem.

Glossodia. Br. *G. Maior* [sic]

No date

Identification of Illustration

Glossodia major R.Br. [identification A. Hansen]

Where the Name was First Published

Glossodia major R.Br., Prodr. 326 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. A flower, fading.– 1b. Section of flower.– 2. Bulb, with the outer skin or covering raised. 2a. Bulb with the inner & outer scales of covering raised, showing the old & new bulb, and rootlets.– 2b. Old bulb, half shriveled.– 2c. Transv. section of same.– 2d. New bulb. – 2e. Vertical section of same, showing the rudiments of new plant.– 3. Column, appendix, & labellum, front view.– 3a. Back of column.– 4. Side of column and appendix.– 4a. Upper pagina of labellum (rough sketch).– 4b. Under ditto of ditto. (ditto). 5. Posterior sepal.– 6. Lateral sepal, right side.– 7. Lateral petal, right side.– 8 Section of fruit. (1b. and 8 magn.)

Hab. Throughout the Northern & Southern parts of the Island, on somewhat poor, dry land.

Obs. One, two and even three flowers are found on one stem.

Glossodia. Br. *G. Maior* [sic]

No date

Comparison of Distribution

Flora Tasmaniae: Common in poor sandy soil throughout the Colony.

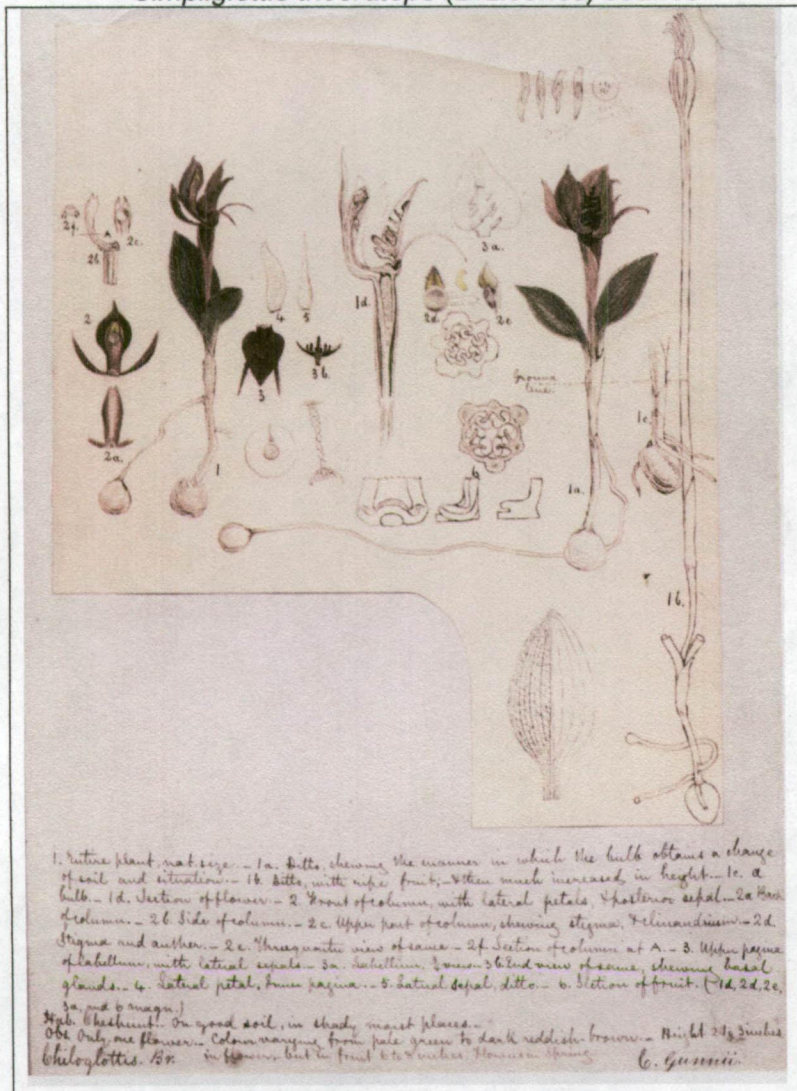
Current: Widely distributed and often abundant in eastern and northern Tasmania. p. 162

This illustration was not used for *Flora Tasmaniae*.

Glossodia: glossa tongue: *odes* alike, similar to

Wax lip orchid

Simpliglottis triceratops (D.L.Jones) Jeanes AG7704 220 x 185 mm framed



1. Entire plant, nat. size.– 1a. Ditto, showing the manner in which the bulb obtains a change of soil and situation.– 1b. Ditto, with ripe fruit;– & then much increased in height.– 1c. A bulb.– 1d. Section of flower.– 2 Front of column, with lateral petals, & posterior sepal.– 2a Back of column.– 2b. Side of column.– 2c. Upper part of column, showing stigma, & clinandrium.– 2d. Stigma and anther.– 2e. Three quarter view of same.– 2f. Section of column at A.– 3. Upper pagina of labellum, with lateral sepals.– 3a. Labellum, ¾ view.– 3b. End view of same, showing basal glands.– 4. Lateral petal, Inner pagina.– 5. Lateral sepal, ditto.– 6. Section of fruit. (1d, 2d, 2e, 3a, and 6 magn.)

Hab. Cheshunt.– On good soil, in shady moist places.–

Obs. Only one flower.– Colour varying from pale green to dark reddish–brown. Height 2 to 3 inches [50 to 70 mm] in flower,– but in fruit 6 to 8 inches [150 to 200 mm]. Flowers in Spring.

Chiloglottis Br. C. gunnii (Lindl?)

No date

Identification of Illustration

Chiloglottis triceratops D.L. Jones [identification A. Rozefelds] [updated by A. Hansen]
Current name *Simpliglottis triceratops* (D.L. Jones) Jeanes, Muelleria.

Where the Name was First Published

Simpliglottis gunnii (Lindley) Szlach., Polish Bot. J. 46(1): 14 (2001)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Ditto, showing the manner in which the bulb obtains a change of soil and situation.– 1b. Ditto, with ripe fruit;– & then much increased in height.– 1c. A bulb.– 1d. Section of flower.– 2 Front of column, with lateral petals, & posterior sepal.– 2a. Back of column.– 2b. Side of column.– 2c. Upper part of column, showing stigma, & clinandrium.– 2d. Stigma and anther.– 2e. Three quarter view of same.– 2f. Section of column at A.– 3. Upper pagina of labellum, with lateral sepals.– 3a. Labellum, ¾ view.– 3b. End view of same, showing basal glands.– 4. Lateral petal, Inner pagina.– 5. Lateral sepal, ditto.– 6. Section of fruit. (1d,2d,2e,3d and 6 magn.)

Hab. Cheshunt.– On good soil, in shady moist places.–

Obs. Only one flower.– Colour varying from pale green to dark reddish–brown. Height 2 to 3 inches [50 to 70 mm] in flower,– but in fruit 6 to 8 inches [150 to 200 mm]. Flowers in Spring.

Chiloglottis Br. *C. gunnii* (Lindl?)

No date

Comparison of Distribution

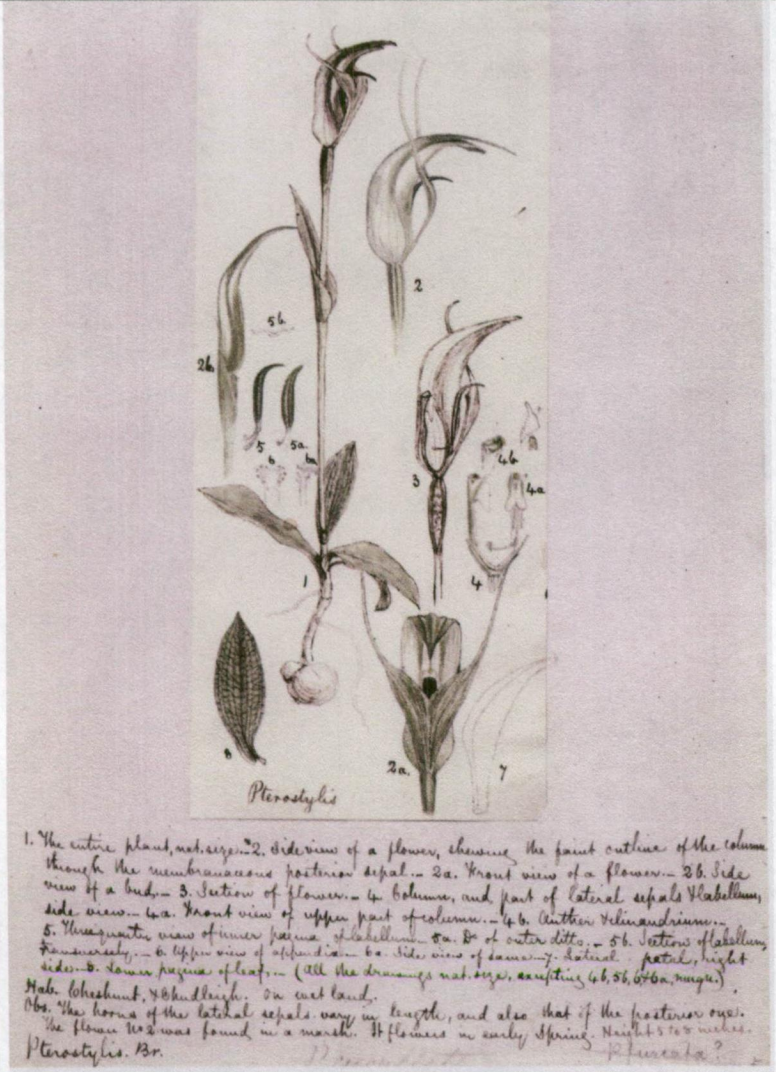
Flora Tasmaniae: Circular Head, Cheshunt and Hobarton.

Current: *Simpliglottis gunnii* (Lindl.) Szlach. Widespread but only locally common, mainly in coastal and near-coastal areas. Absent from the east and north-east. Endemic to Tasmania. p. 108

This illustration was used for *Chiloglottis gunnii* Lindl. In *Flora Tasmaniae.*

Simpliglottis: simplici simple: *glotto* tongue

Tall bird orchid



Identification of Illustration

Pterostylis [identification A. Rozefelds]
This illustration cannot be keyed out further. See notes on *Pterostylis* above.

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Side view of a flower, showing the faint outline of the column through the membranaceous posterior sepal.– 2a. Front view of a flower.– 2b. Side view of a bud.– 3. Section of flower.– 4. Column, and part of lateral sepals & labellum, side view.– 4a. Front view of upper part of column.– 4b. Anther & clinandrium.– 5. Three quarter view of inner pagina of labellum.– 5a. D. of outer ditto.– 5b. Section of labellum, transversely.– 6. Upper view of appendix.– 6a. Side view of same.– 7. Lateral petal, right side.– 8. Lower pagina of leaf.– (All drawings nat. size, excepting 4b, 5b, 6 & 6a, magn.)

Hab. Cheshunt, & Chudleigh. On wet land.

Obs. The horns of the lateral sepals vary in length, and also that of the posterior one. The flower No 2 was found in a marsh. It flowers in early Spring. Height 5 to 8 inches [130 to 210 mm].

Pterostylis. Br. *P. furcata*?

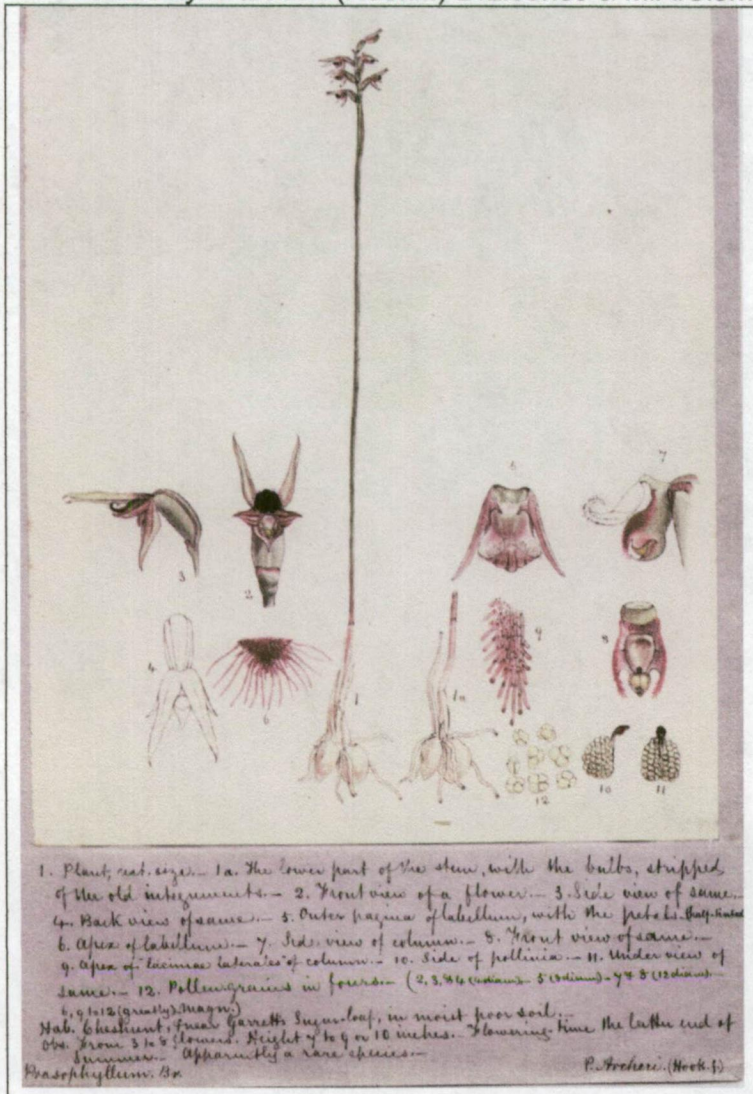
No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Pterostylis: pteron wing: *stylis* style or column

Corunastylis archeri (Hook.f.) D.L.Jones & M.A.Clem. AG7706 230 x 185 mm framed



Identification of Illustration

Corunastylis archeri (Hook.f.) D.L. Jones & M.A. Clems. [identification A. Rozefelds] 1.(3),3.(4),4.(6),6.(7),7.*Genoplesium*.1.(2)*G.archeri*. *G. archeri* now *Corunastylis archeri*. [AH]

Where the Name was First Published

Corunastylis archeri (Hook.f.) D.L.Jones & M.A.Clem., Orchadian 13(10): 460 (2002)

Transcript of Archer's Notes

1. Plant, nat. size – 1a. The lower part of the stem, with the bulbs, stripped of the old integuments. 2. Front view of a flower. – 3. Side view of same. – 4. Back view of same. – 5. Outer pagina of labellum, with the petals. (half-tinted) 6. – Apex of labellum. – 7. Side view of column. – 8. Front view of same. – 9. Apex of laciniae laterales of column. – 10. Side view of pollinia. – 11. Under view of same. – 12. Pollen grains in fours. – (2, 3, & 4 (4 diam), – 5 (8 diam) – 7 & 8 (12 diam). – 6, 9 to 12 (greatly) – magn.)

Hab. Cheshunt, near Garrett's Sugar-loaf, in moist poor soil.–

Obs. From 3 to 8 flowers. Height 7 to 9 or 10 inches [180 to 230 or 250 mm]. Flowering–time the latter end of Summer.– apparently a rare species.–

Prasophyllum. Br. *P archeri* (Hook.f.)

No date

Comparison of Distribution

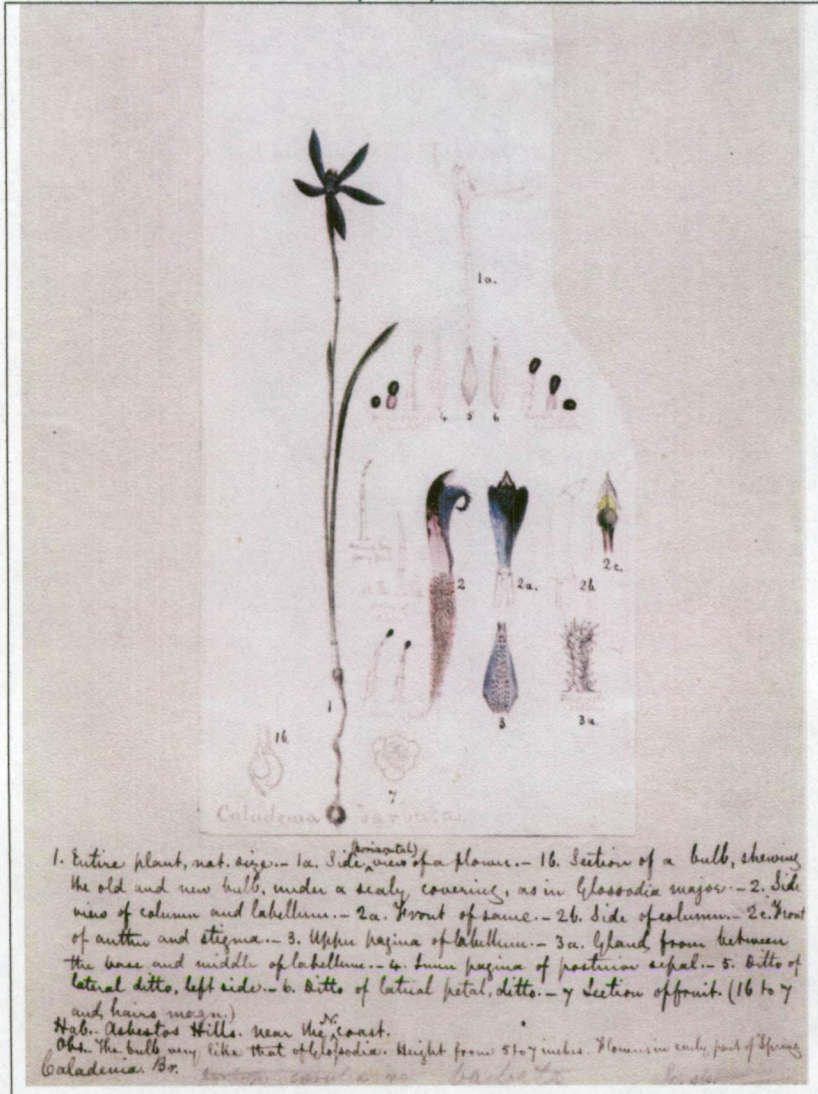
Flora Tasmaniae: Near Cheshunt.

Current: Widespread and locally fairly common in most lowland areas up to 400 m…but absent from the Midlands. [Archer collected the type specimen for this] p. 152

This illustration may have been used for *Prasophyllum archeri* H.f. in *Flora Tasmaniae.*

Corunastylis: *koryne* club: *stylos*, column or pillar
Elphin midge orchid

Pheladenia deformis (R.Br.) D.L.Jones & M.A.Clem. AG7707 225 x 115 mm framed



1. Entire plant, nat. size.– 1a. Side (horizontal) view of a flower.– 1b. Section of a bulb, shewing the old and new bulb, under a scaly covering, as in Glossodia major.– 2. Side view of column and labellum.– 2a. Front of same.– 2b. Side of column.– 2c. Front of anther and stigma.– 3. Upper pagina of labellum.– 4. Inner pagina of posterior sepal.– 5. Ditto of lateral ditto, left side.– 6. Ditto of lateral petal, ditto.– 7 Section of fruit. (1b to 7 and hairs magn.)
Hab. Asbestos Hills, near the N. coast.
Obs. The bulb very like that of Glossodia. Height from 5 to 7 inches. Flowers in early part of Spring.
Caladenia Br.

Identification of Illustration

Pheladenia deformis (R.Br.) D.L.Jones & M.A.Clem [identification A. Hansen]
Archer identifies this illustration as *Caladenia ?* , however Lindley refers it as possibly to *C. barbata*.
Current name for *C. babata* is *Pheladenia deformis* (R.Br.) D.L.Jones & M.A.Clem

Where the Name was First Published

Pheladenia deformis (R.Br.) D.L.Jones & M.A.Clem., Orchadian 13(9): 411 (2001)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Side (horizontal) view of a flower.– 1b. Section of a bulb, showing the old and new bulb, under a scaly covering, as in *Glossodia major*.– 2. Side view of column and labellum.– 2a. Front of same.– 2b. Side of column.– 2c. Front of anther and stigma.– 3. Upper pagina of labellum.– 4. Inner pagina of posterior sepal.– 5. Ditto of lateral ditto, left side.– 6. Ditto of lateral petal, ditto.– 7 Section of fruit. (1b to 7 and hairs magn.)

Hab. Asbestos Hills, near the N. coast.

Obs. The bulb very like that of *Glossodia*. Height from 5 to 7 inches [130 to 180 mm]. Flowers in early part of Spring.

Caladenia Br.
Caladenia barbata.

No date

Comparison of Distribution

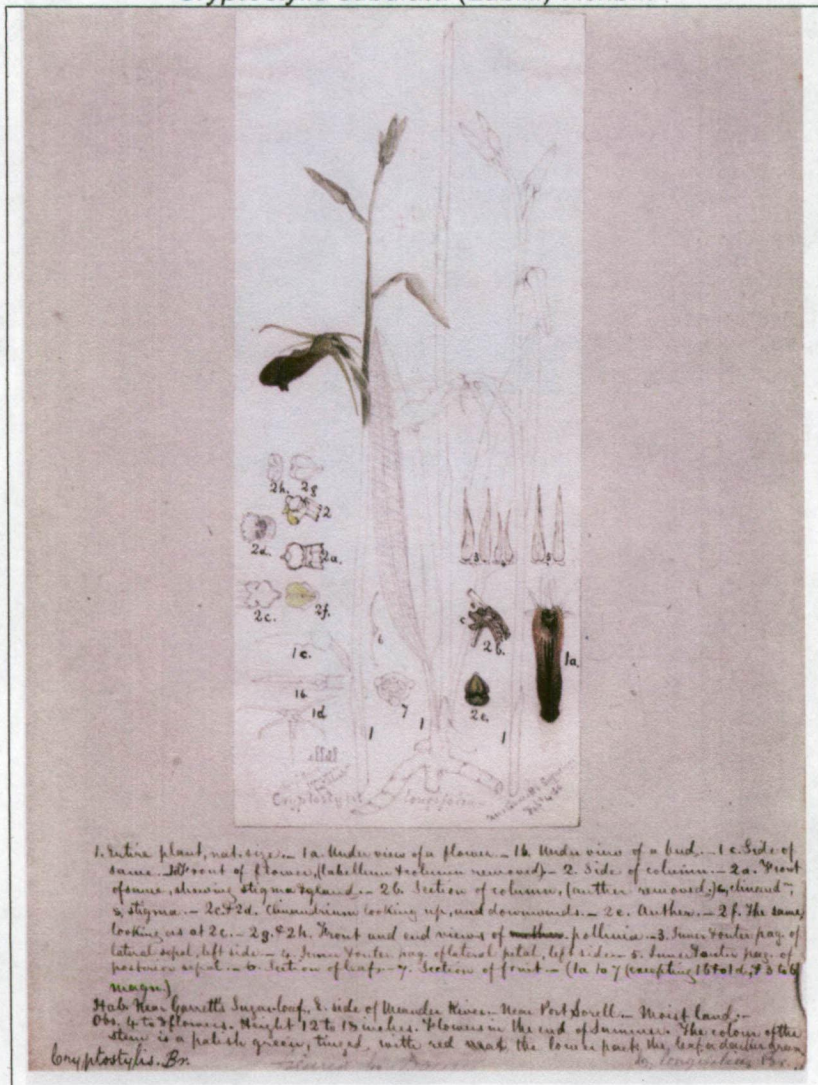
Flora Tasmaniae: Abundant in grassy pastures throughout the Island

Current: Uncommon, but widespread in coastal and near-coastal areas below 200 m, mostly in the eastern half of the State and on Flinders Island [none near Cheshunt]. p. 72

This illustration was used for *Caladenia barbata* Lindl. in *Flora Tasmaniae*.

Caladenia: calos beautiful: *adenos* gland

Blue fairies



Identification of Illustration

Cryptostylis subulata (Labill.) Rchb.f. [identification A. Rozefelds]

Where the Name was First Published

Cryptostylis subulata (Labill.) Rchb.f., Beitr. Syst. Pflanzenk. 15 (1871)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Under view of a bud.– 1c. Side of same.– 1d. Front of flower, (labellum & column removed).– 2. Side of column.– 2a. Front of same, showing stigma & gland.– 2b. Section of column, (anther removed.) 6. Clinand'm. 5. stigma.– 2c. & 2d. Clinandrium looking up, and downwards.– 2c. Anther.– 2f. The same, looking as at 2c.– 2 g. & 2h. Front and end views of pollinia.– 3 Inner & outer pag. of lateral sepal, left side.– 4. Inner & outer pag. of lateral petal, left side.– 5. Inner & outer pag. of posterior sepal.– 6. Section of leaf.– 7. Section of fruit.– (1a to 7 (excepting 1b to 1d, & 3 to 6, magn.)

Hab. Near Garrett's Sugar-loaf, E. side of Meander River.– Near Port Sorell.– Moist land.–

Obs. 4 to 8 flowers. Height 12 to 18 inches [300 to 450 mm]. Flowers in the end of Summer. The colour of the stem is a palish green, tinged with red at the lower parts; the leaf a darker green.

Cryptostylis. Br. *C. longifolia.* Br.

Feb 4 1850

Comparison of Distribution

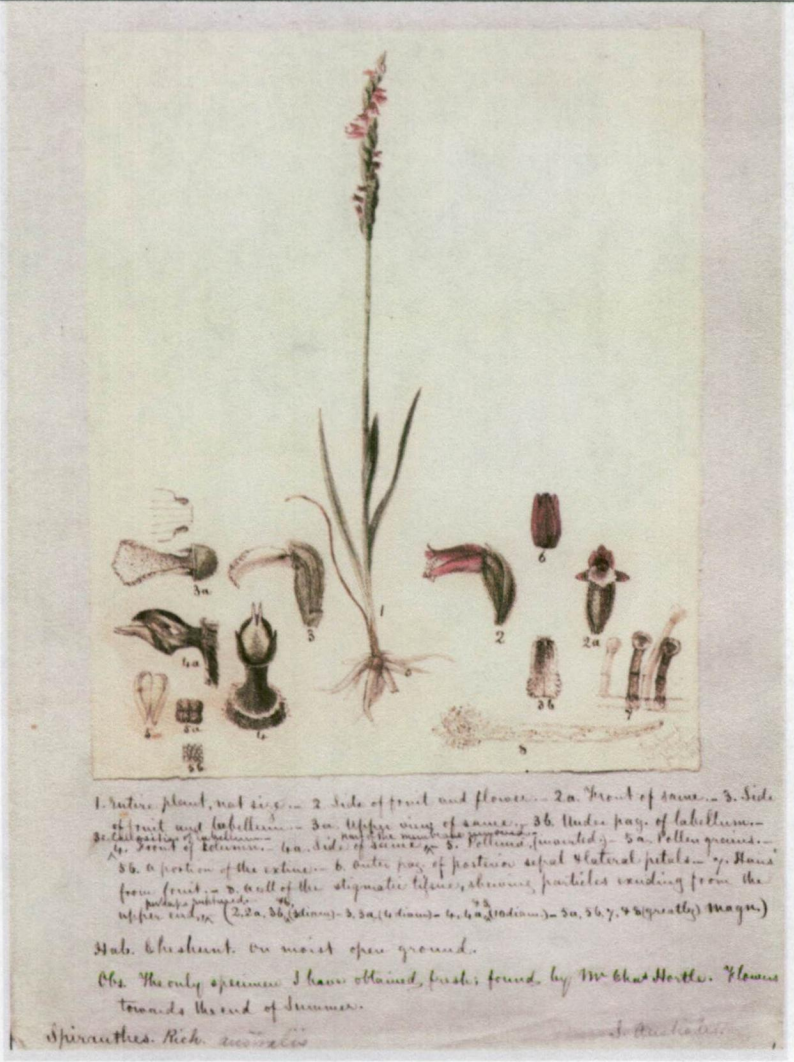
Flora Tasmaniae: Circular Head, Port Sorrell, Garrett's Sugarloaf and east side of the Meander.

Current: Widespread but localised in most coastal and near coastal lowland areas up to 450 m ...p. 126

This illustration was used for *Cryptostylis longifolia* R.Br. in *Flora Tasmaniae.*

Cryptostylis: cryptos hidden: *stylos* style or column

Duck bill orchid



Identification of Illustration

Spiranthes australis (R.Br.) Lindl. [identification A. Rozefelds]

Where the Name was First Published

Spiranthes australis (R.Br.) Lindley, Bot. Reg. 10, subt.823 (1824)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Side of fruit and flower.– 2a. Front of same.– 3. Side of fruit and labellum.– 3a. Upper view of same.– 3b. Under pag. of labellum.– 3c. Callosities of labellum.– 4. Front of column.– 4a. Side of same, part of the membrane removed.– 5. Pollinia, (inverted.).– 5a. Pollen grains.– 5b. A portion of the extine.– 6. Outer pag. of posterior sepal & lateral petals.– 7. Hairs from fruit.– 8. A cell of the stigmatic tissues, showing particles exuding from the upper end, perhaps ruptured.– (2, 2a, 3b & 6 (3 diam.) – 3, 3a. (4 diam.) – 4, 4a, & 5 (10 diam.) – 5a, 5b, 7, & 8 (greatly) magn.)

Hab. Cheshunt. On moist open ground.

Obs. The only specimen I have obtained fresh; found by Mr Chas Hortle. Flowers towards the end of Summer.

Spiranthes. Rich. *australis* (Lindl?)

Jan 31?

Comparison of Distribution

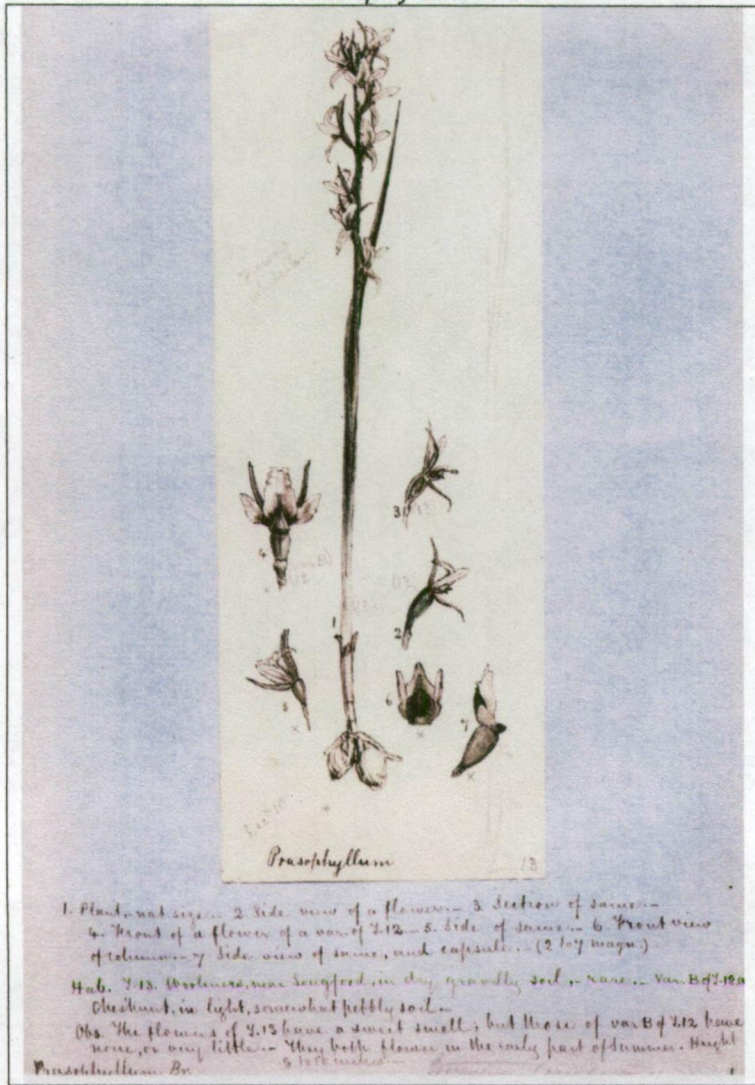
Flora Tasmaniae: Circular Head, Cheshunt.

Current: Widespread and locally fairly common throughout the State ... p. 254.

This illustration was not used for *Flora Tasmaniae*.

Spiranthes: speira spiral: *anthos* flower

Ladies' tresses



Identification of Illustration

Prasophyllum [identification A. Rozefelds]
This illustration cannot be keyed out. See notes on *Prasophyllum* above.

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size.– 2. Side view of a flower.– 3. Section of same.– 4. Front of a flower of a var. of T [?] 12.– 5. Side of same.– 6. Front view of column.– 7. Side view of same, and capsule.– (2 to 7 magn.)

Hab. T 13. Woolmers, near Longford, in dry gravelly soil,– rare.– var. B. of T12 at Cheshunt, in light, somewhat pebbly soil.–

Obs. The flowers of T.13 have a sweet smell; but those of var B of T.12 have none, or very little.– They both flower in the early part of Summer. Height 8 to 10 inches [200 to 250 mm].

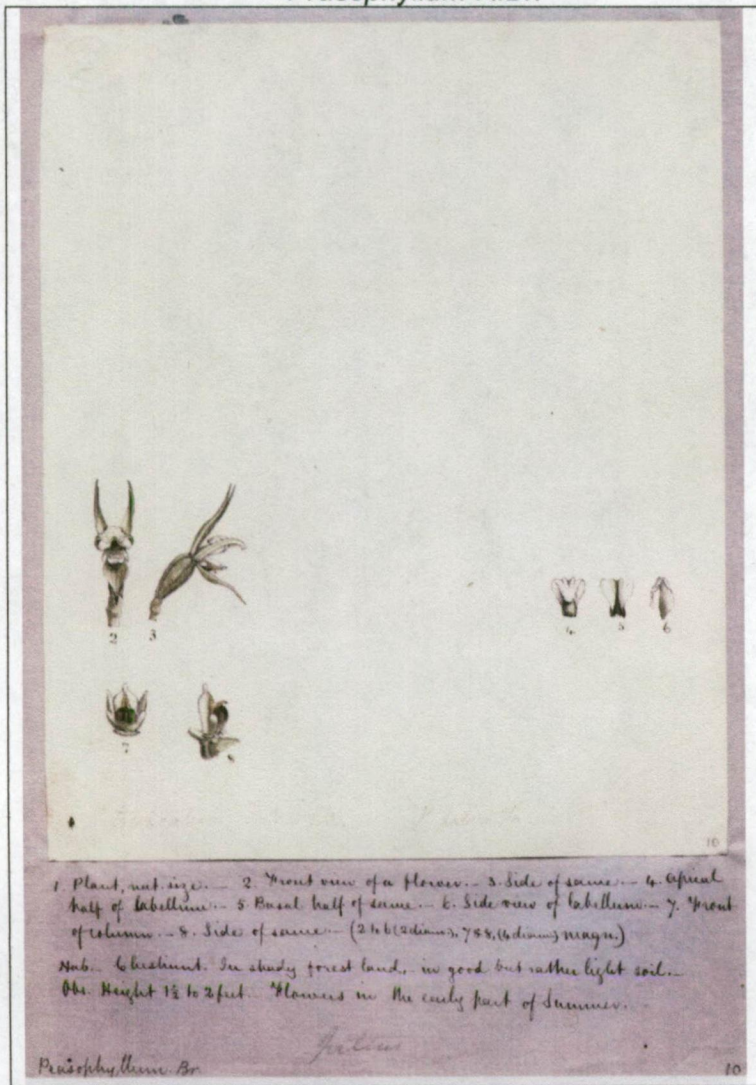
Prasophyllum Br.

Dec 10

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf



Identification of Illustration

Prasophyllum [identification A. Hansen]
This illustration cannot be keyed out further. See notes on *Prasophyllum* above.
Prasophyllum [identification by W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size.– 2. Front view of a flower.– 3. Side of same.– 4. Apical half of labellum.– 5. Basal half of same.– 6. Side view of labellum.– 7. Front of column.– 8. Side of same.– (2 to 6 (2 diam.), 7 & 8, (4 diam.) magn.)

Hab. Cheshunt. In shady forest land, in good but rather light soil.–

Obs. Height 1 ½ to 2 feet [460 to 600 mm]. Flowers in the early part of Summer.

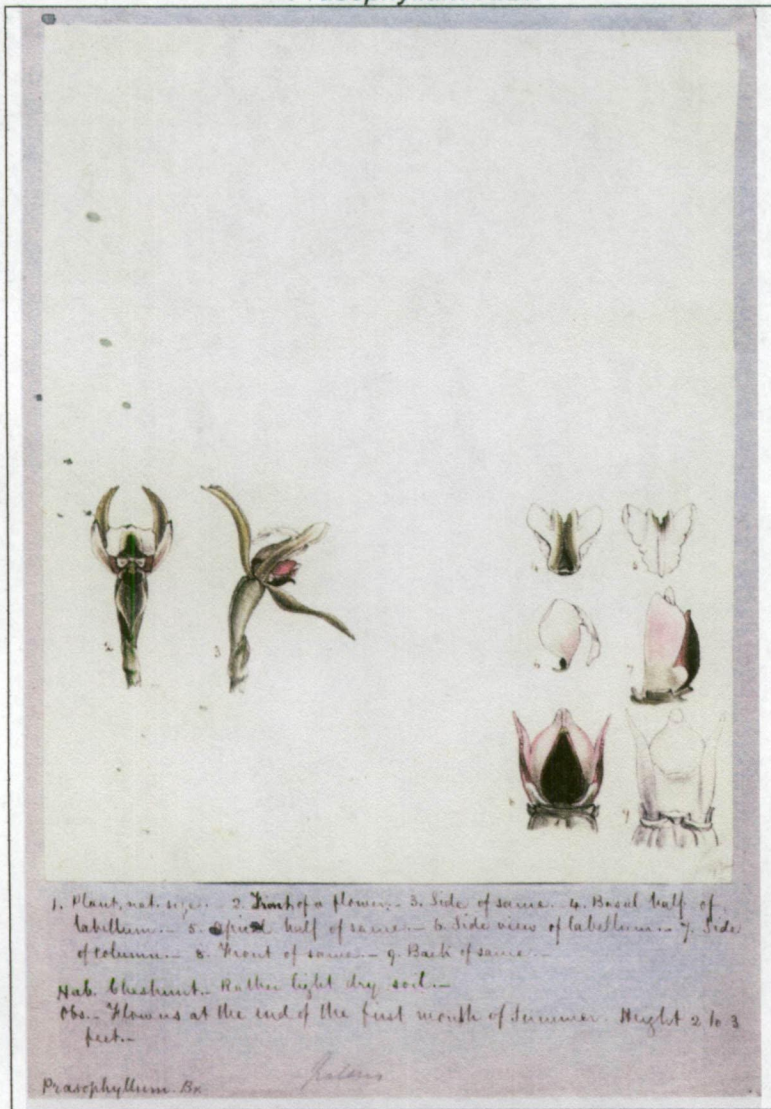
Prasophyllum. Br.

No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf



Identification of Illustration

Prasophyllum [identification A. Hansen]
This illustration cannot be keyed out further. See notes on *Prasophyllum* above.
Prasophyllum [identification by W. Archer]

Where the Name was First Published

N/A

Transcript of Archer's Notes

1. Plant, nat. size.– 2. Front of a flower.– 3. Side of same.– 4. Basal half of labellum.– 5. Apical half of same.– 6. Side view of labellum.– 7. Side of column.– Front of same.– 9. Back of same.–

Hab. Cheshunt.– Rather light dry soil.

Obs. Flowers at the end of the first month of Summer. Height 2 to 3 feet [600 to 900 mm].–

Prasophyllum. Br.

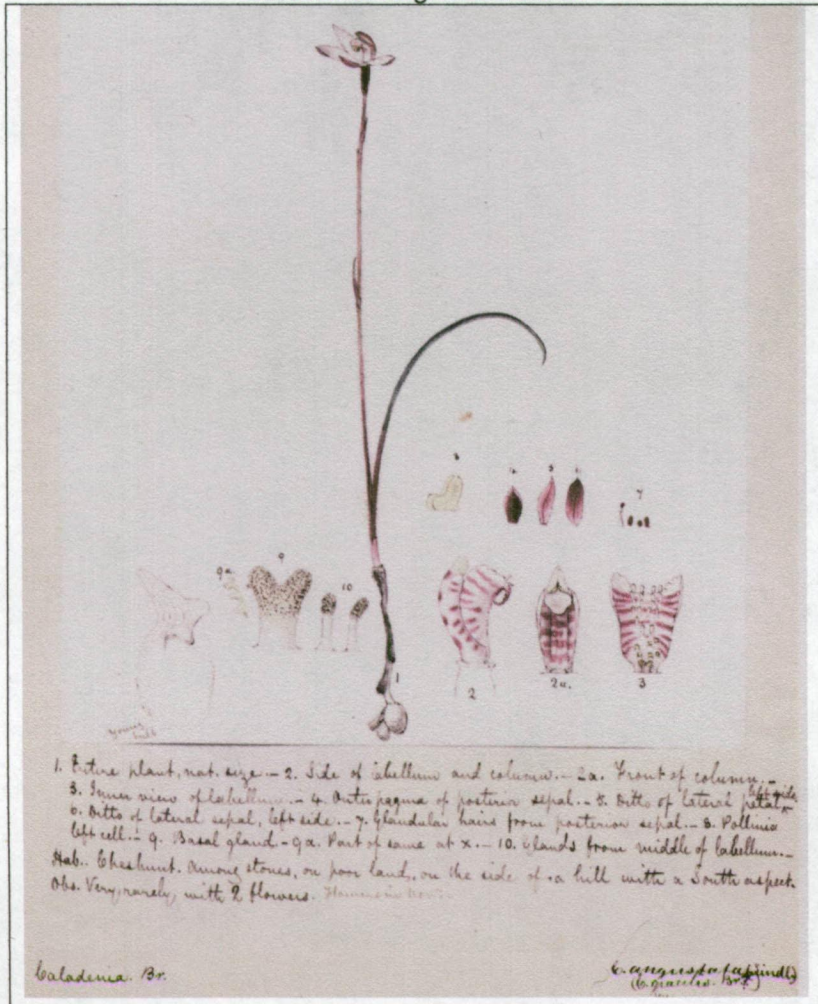
No date

Comparison of Distribution

As this illustration cannot be fully identified, comparison of distribution is impossible.

Prasophyllum: prason leek: *phyllon* leaf

Caladenia angustata Lindl. AG7713 225 x 180 mm framed



Identification of Illustration

Caladenia angustata Lindl. [identification A. Rozefelds]

Where the Name was First Published

Caladenia angustata Lindley, Gen. Sp. Orchid. Pl. 420 (1840)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Side of labellum and column.– 2a. Front of column.– 3. Inner view of labellum.– 4. Outer pagina of posterior sepal.– 5. Ditto of lateral petal left side.– 6. Ditto of lateral sepal, left side.– 7. Glandular hairs from posterior sepal.– 8. Pollinia left cell.– 9. Basal gland.– 9a. Part of same at x.– 10. Glands from middle of labellum.–

Hab.– Cheshunt. Among stones, on poor land, on the side of a hill with a South aspect.

Obs. Very rarely with 2 flowers. Flowers in Nov.

Caladenia. Br. *C. gracilis*. Br. *C. angustata* (Lindl.)

No date

Comparison of Distribution

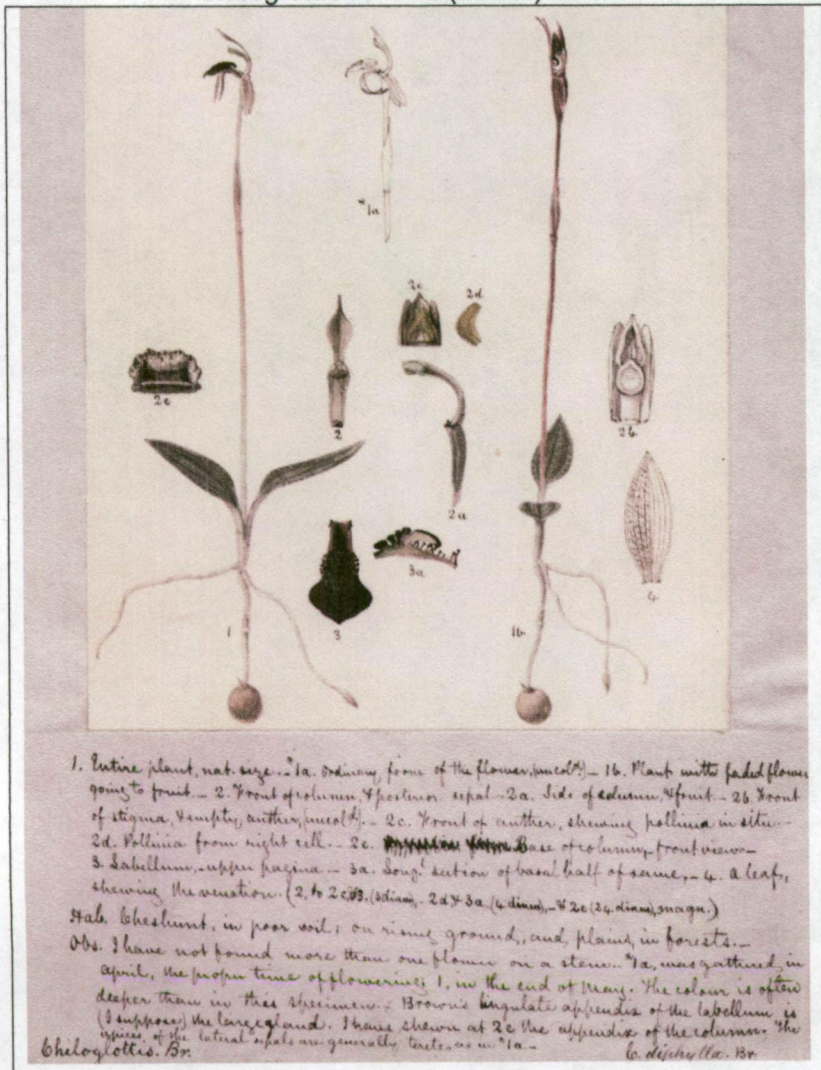
Flora Tasmaniae: Probably common. Circular Head, Cheshunt, Hobarton, etc
Current: Locally common in the north and north-east. Its distribution is as yet poorly known [not shown as currently known in Hobart]. p. 58

This illustration was used for *Flora Tasmaniae*.

Caladenia: calos beautiful: *adenos* gland

Narrow-leaf Caladenia

Chiloglottis reflexa (Labill.) Druce AG7714 205 x 165 mm framed



Identification of Illustration

Chiloglottis reflexa Labill. Druce [identification A. Rozefelds]

Where the Name was First Published

Chiloglottis reflexa Labill. Druce, Bot. Soc. Exch. Club Brit. Isles 1916 Suppl.2:614 (1917)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Ordinary form of the flower. (uncol'd.) – 1b. Plant with faded flower, going to fruit.– 2. Front of column, & posterior sepal.– 2a. Side of column, & fruit.– 2b. Front of stigma, & empty, anther, (uncol'd). – 2c. Front of anther, showing pollinia in situ.– 2d. Pollinia from right cell.– 2c. Base of column,– front view.– 3. Labellum.– upper pagina.– 3a. Long. section of basal half of same.– 4. A leaf, showing venation. (2, to 2c & 3. (3 diam),– 2d. & 3a. (4 diam), – & 2c (24. diam), magn.)

Hab. Cheshunt, in poor soil; on rising ground, and, plains, in forests.–

Obs. I have not found more than one flower on a stem.– * 1a, was gathered in April, the proper time of flowering; 1. in the end of May. The colour is often deeper than in this specimen.– Brown's lingulate appendix of the labellum is (I suppose) the large gland. I have shown at 2c the appendix of the column. The apices of the lateral sepals are generally terete, as in *1a.–

Chiloglottis. Br. *C. diphylla* Br. (Lindl.?)
No date

Comparison of Distribution

Flora Tasmaniae: Woolnorth, Circular Head, Cheshunt, etc.

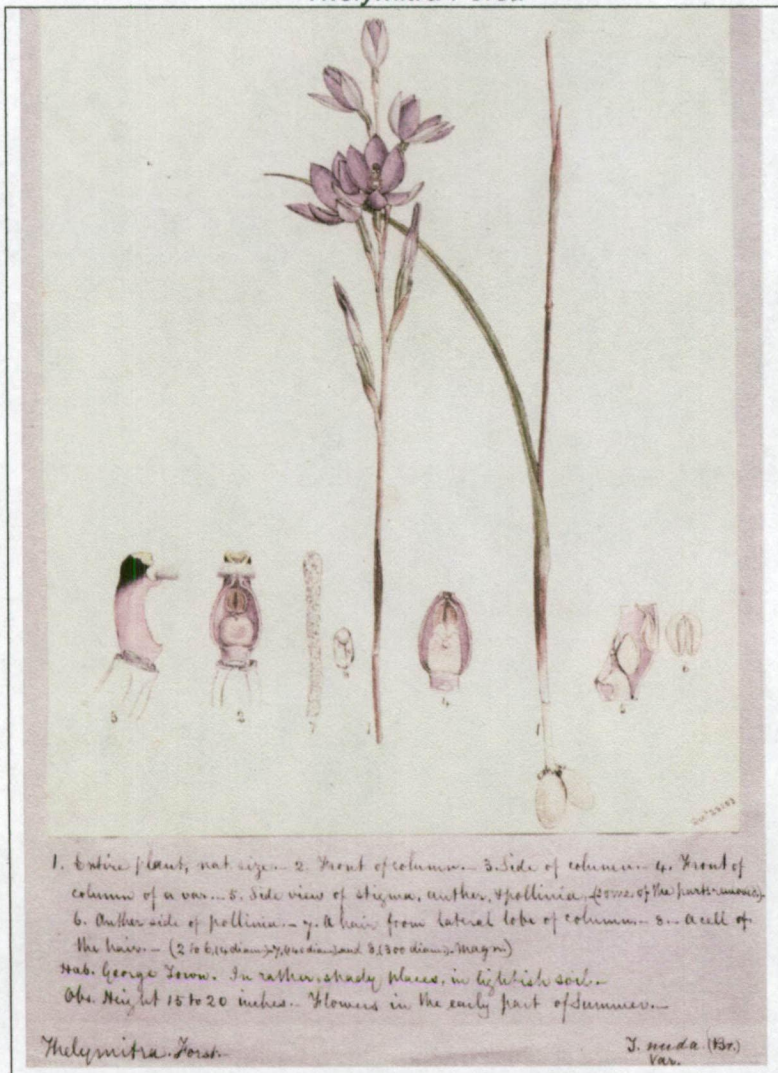
Current: Widespread and common in lowland areas up to 300 m. p. 109

This illustration was not used for *Flora Tasmanaiae.*

Chiloglottis: chelis lip: *glottis* mouth of the windpipe

Autumn bird orchid

Thelymitra Forst. AG7715 225 x 185 mm framed



Identification of Illustration

Thelymitra nuda. R. Br. [identification A. Hansen]
A comparison of the columns on p 260–261 and Archer's illustration show it is that of *T. nuda* R. Br.

Where the Name was First Published

Thelymitra nuda R.Br., Prodr. 314 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Front of column.– 3. Side of column.– 4. Front of column of a var.– 5. Side view of stigma, anther, & pollinia.– (some of the parts removed.)– 6. Anther side of pollinia.– 7. A hair from lateral lobe of column.– 8.– A cell of the hair.– (2 to 6, (4 diam.) – 7, (140 diam.) – magn.)

Hab. George Town. In rather shady places, in light soil.–

Obs. Height 15 to 20 inches [380 to 510 mm].– Flowers in the early part of Summer.–

Thelymitra. Forst.–
T. nuda. (Br.) var.

Date: Dec 25 1853

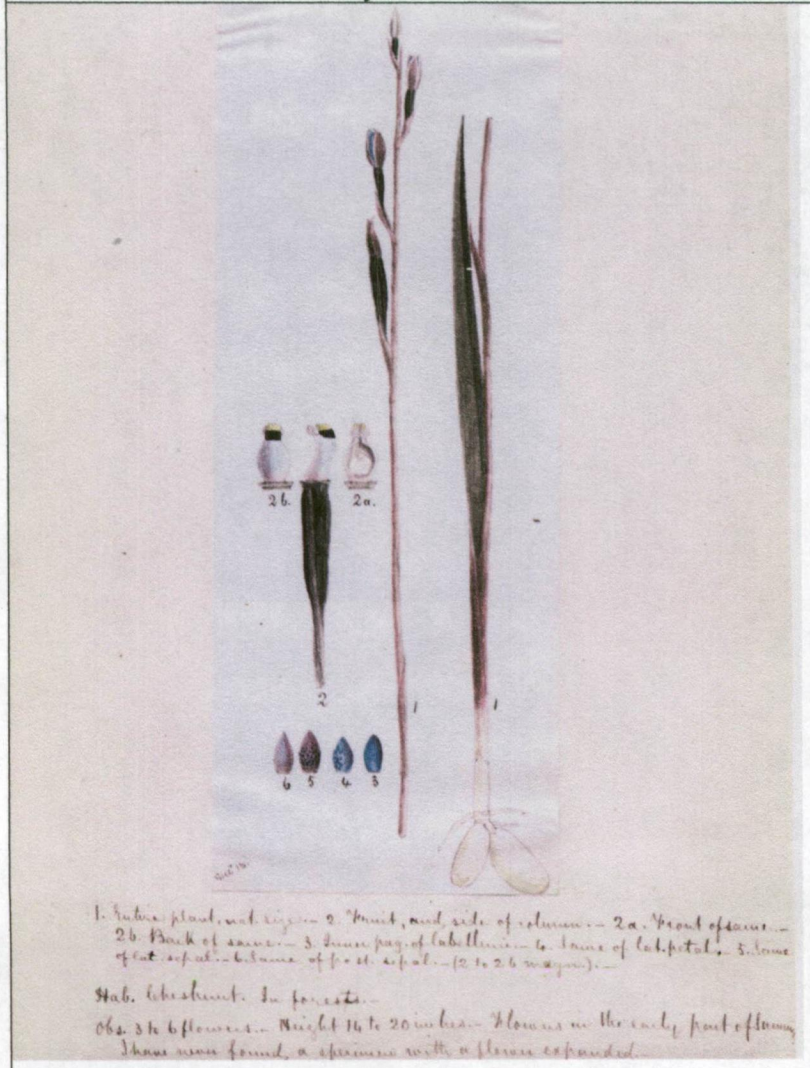
Comparison of Distribution

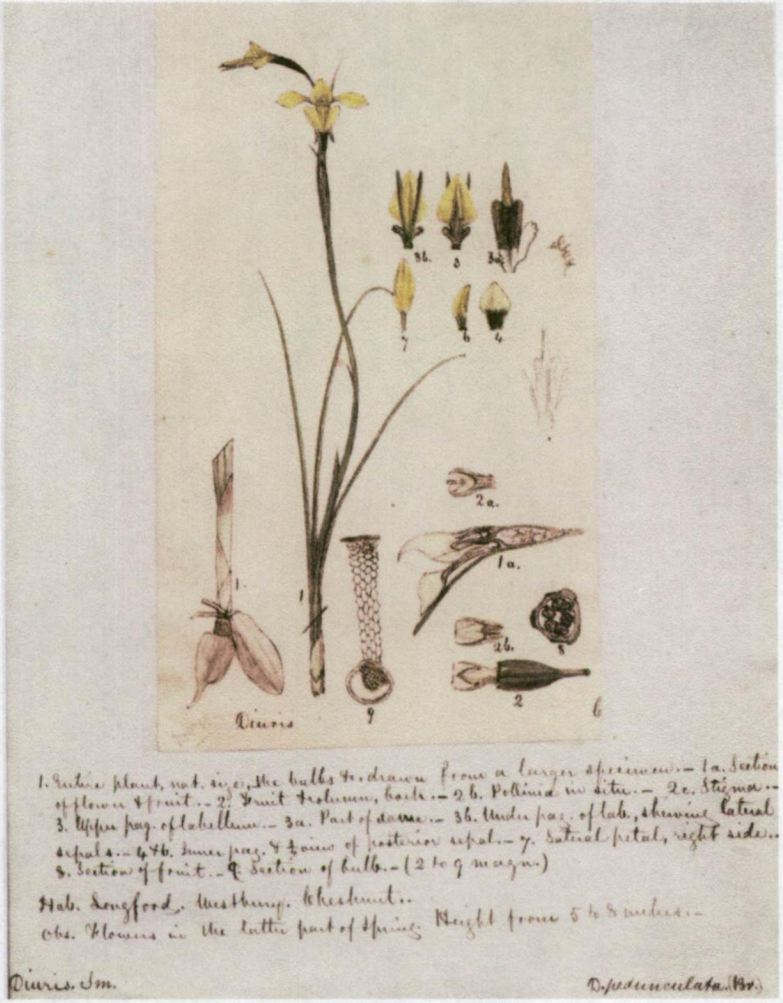
Flora Tasmaniae: Abundant throughout the colony.
Current: Widespread and quite common in lowland areas, especially coastal and near-coastal. p. 281

This illustration was not used for *Flora Tasmaniae*.

Thelymitra: thelys female; *mitra* cap

Plain sun orchid

Thelymitra Forst.	AG7716 250 x 95 mm framed
	**Identification of Illustration** *Thelymitra* [identification A. Hansen] The floral morphology indicates that it is of a species of *Thelymitra*. **Where the Name was First Published** **N/A** **Transcript of Archer's Notes** 1. Entire plant, nat. size.– 2. Fruit, and side of column.– 2a. Front of same.– 2b. Back of same.– 3. Inner pag. of labellum.– 4. Same of lat. petal.– 5. Same of lat. sepal.– 6. Same of post. sepal.– (2 to 2b magn.).– Hab. Cheshunt. In forests.– Obs. 3 to 6 flowers.– Height 14 to 20 inches [350 to 500 mm].– Flowers in the early part of Summer. I have never found a specimen with the flower expanded.– Date: Dec 18 [?] **Comparison of Distribution** As this illustration cannot be fully identified, comparison of distribution is impossible. *Thelymitra: thelys* female; *mitra* cap



Identification of Illustration

Diuris chryseopsis D.L. Jones [identification A. Rozefelds]

Where the Name was First Published

Diuris chryseopsis D.L.Jones, Austral. Orchid Res. 3: 74 (1998)

Transcript of Archer's Notes

1. Entire plant, nat. size, the bulbs etc. drawn from a larger specimen. – 1a. Section of flower and fruit. – 2. Fruit + column, back.– 2b. Pollina in situ.– 2c. Stigma.– 3. Upper pag. of labellum.– 3a. Part of same.– 3b. Under pag. of lab., showing lateral sepals.– 4 & 6. Inner pag. & ¾ view of posterior sepal.– 7. Lateral petal, right side.– 8. Section of fruit.– 9. Section of bulb.– (2 to 9 magn.)

Hab. Longford. Westbury Cheshunt.–

Obs. Flowers in the latter part of Spring. Height from 5 to 8 inches [130 to 200 mm].–

Dirius.Sm. D. pendunculata.(Br.)

Drawn. Nov 15

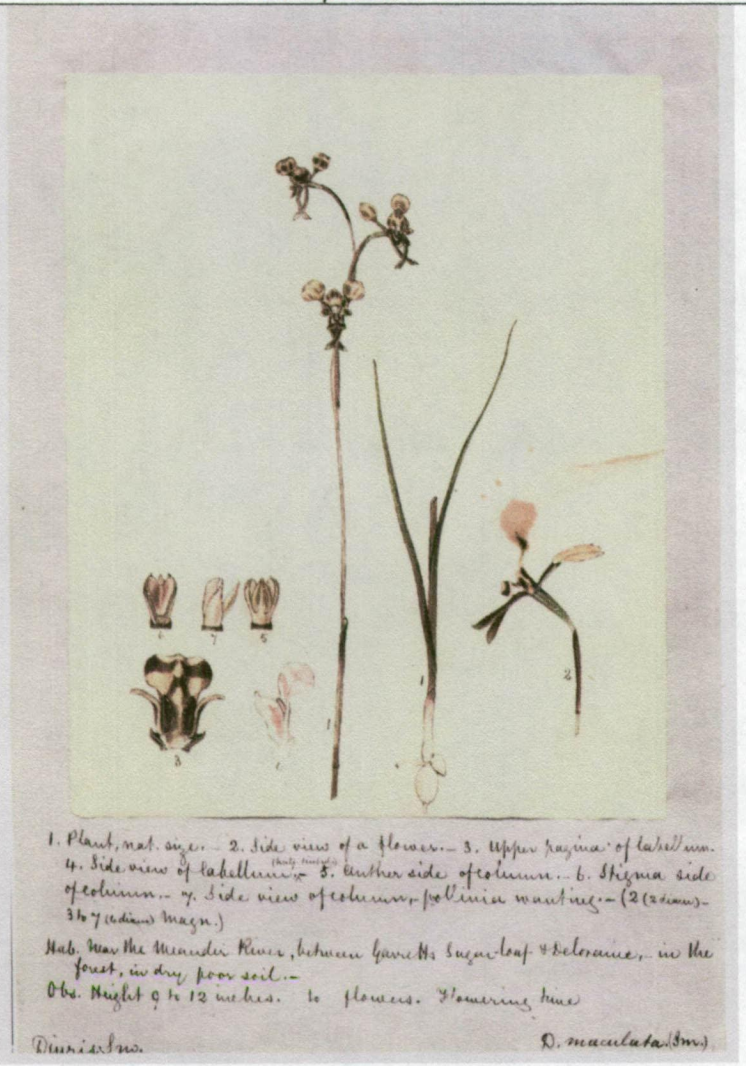
Comparison of Distribution

Flora Tasmaniae: Abundant in moist soil near Hobarton, and other parts of the Island.
Current: Widespread and locally quite common in coastal lowland areas and the Midlands, possibly confined in the eastern half of the State. p. 135

This illustration was used for *Diuris pedunculata* R. Br. In *Flora Tasmanaiae.*

Diuris: dis two: *oura* tail

Golden moths



Identification of Illustration

Diuris pardina Lindl. [identification A. Rozefelds]

Where the Name was First Published

Diuris pardina Lindley, Gen. Sp. Orchid. Pl. 507 (1840)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Side view of a flower.– 3 Upper pagina of labellum.– 4. Side view of labellum (half tinted).– 5. Anther side of column.– 6. Stigma side of column.– 7. Side view of column,– pollinia wanting.– (2 (2 diam.)– 3 to 7 (4 diam.) magn.)

Hab. Near the Meander River, between Garrett's Sugar-loaf & Deloraine,– in the forest, in dry poor soil.–

Obs. Height 9 to 12 inches [230 to 300 mm]. – to – flowers [not completed]. Flowering time

Diuris D. maculata (?Lindl) (Sm)

Not dated

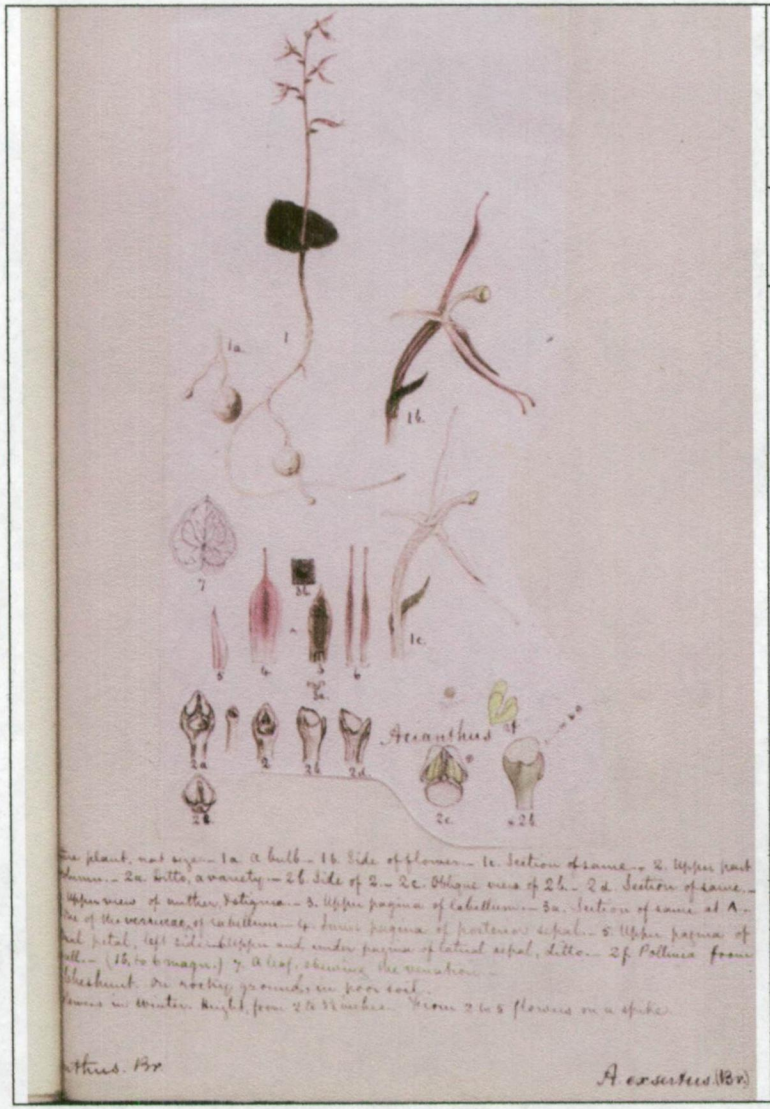
Comparison of Distribution

Flora Tasmaniae: Very abundant in pastures and loose forests throughout the colony.
Current: Widespread and locally common in lowland areas mainly below 350 m in the eastern half of the State. p. 140

This illustration was used for *Diuris maculata* Sm in *Flora Tasmanaiae*

Diuris: dis two: *oura* tail

Leopard orchid



Identification of Illustration

Acianthus exsertus Br.

Acianthus pusillus D.L. Jones [identification A. Hansen]
The current name is *A. pusillus* D.L. Jones.

Where the Name was First Published

Acianthus pusillus D.L.Jones, Austral. Orchid. 2:7 (1991)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. A bulb.– 1b. Side of flower.– 1c. Section of same.– 2. Upper part of column.– 2a. Ditto, a variety.– 2b. Side of 2.– 2c. Oblique view of 2b.– 2d.– Section of same.– 2e. Upper view of anther, & stigma.– 3. Upper pagina of labellum.– 3a. Section of same at A.– 3b. One of the verricae of labellum.– 4. Inner pagina of posterior sepal.– 5. Upper pagina of lateral petal, left side.– 6. Upper and under pagina of lateral sepal, ditto.– 2f. Pollinia from hull.– (1b, to 6 magn.) 7. A leaf, showing the venation.

Hab. Cheshunt. On rocky ground, in poor soil.

Obs. Flowers in Winter. Height, from 2 to 3 ½ inches [50 to 90 mm]. From 2 to 5 flowers on a spike.

Acianthus exsertus Br.

Illustration not dated

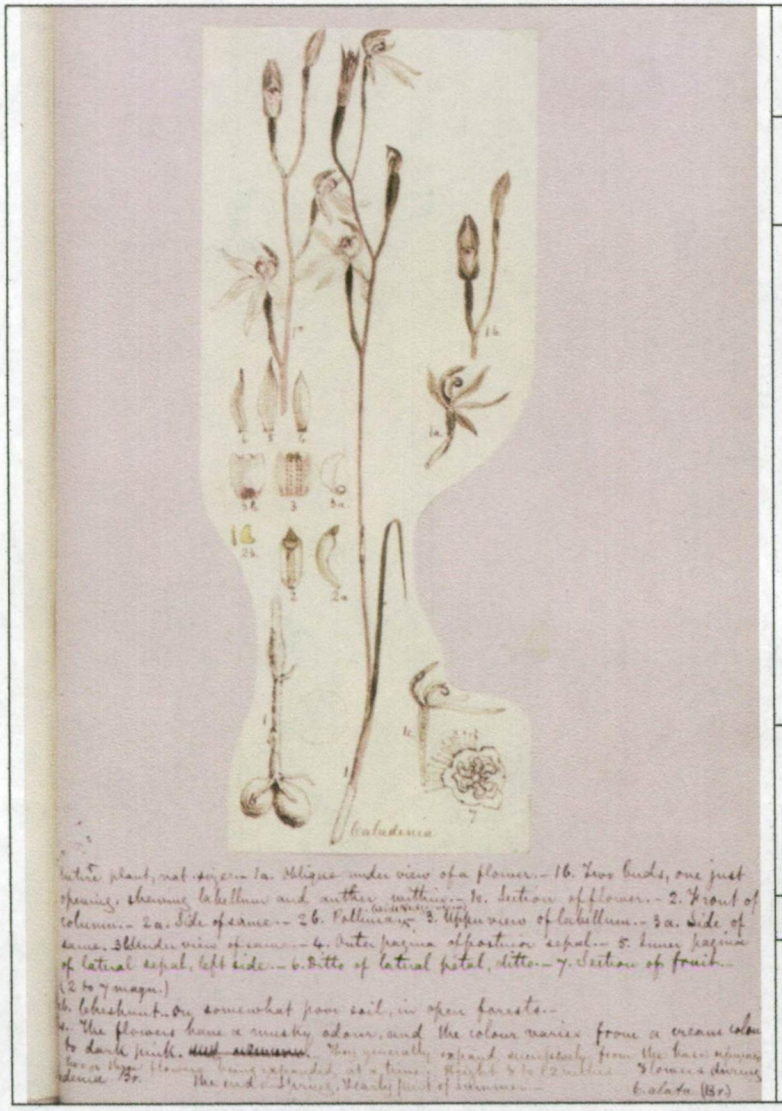
Comparison of Distribution

Flora Tasmaniae: Circular Head, Cheshunt.
Current A. pusillus D.L.Jones.
Widespread and locally abundant. Mostly in coastal and near-coastal areas up to 350 m...but absent from most of the west and south coast. p. 44

Illustration used in *Flora Tasmaniae* (*Acianthus exsertus* Br.)

Acianthus: acis point *anthos* flower

Small mosquito orchid



Identification of Illustration

Caladenia alata R. Br [identification A. Hansen]

Where the Name was First Published

Caladenia alata R.Br., Prodr. 324 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Oblique view of a flower.– 1b. Two buds, one just opening, showing labellum and anther within.– 1c. Section of flower.– 2. Front of column.– 2a. Side of same.– 2b. Pollinia (side & edge view).– 3. Upper view of labellum.– 3a. Side of same.– 3b. Under view of same.– 4. Outer pagina of posterior sepal.– 5. Inner pagina of lateral sepal, left side.– 6. Ditto of lateral petal, ditto.– 7. Section of fruit.– (2 to 7 magn.)

Hab. Cheshunt. On somewhat poor soil, in open forests.

Obs. The flowers have a musky odour, and the colour varies from a cream colour to dark pink. They generally expand successively from the base upwards, two or three flowers being expanded at a time. Height 8 to 12 inches [200 to 305 mm]. Flowers during the end of Spring & early part of Summer.

Caladenia alata (Br.)

Illustration not dated

Comparison of Distribution

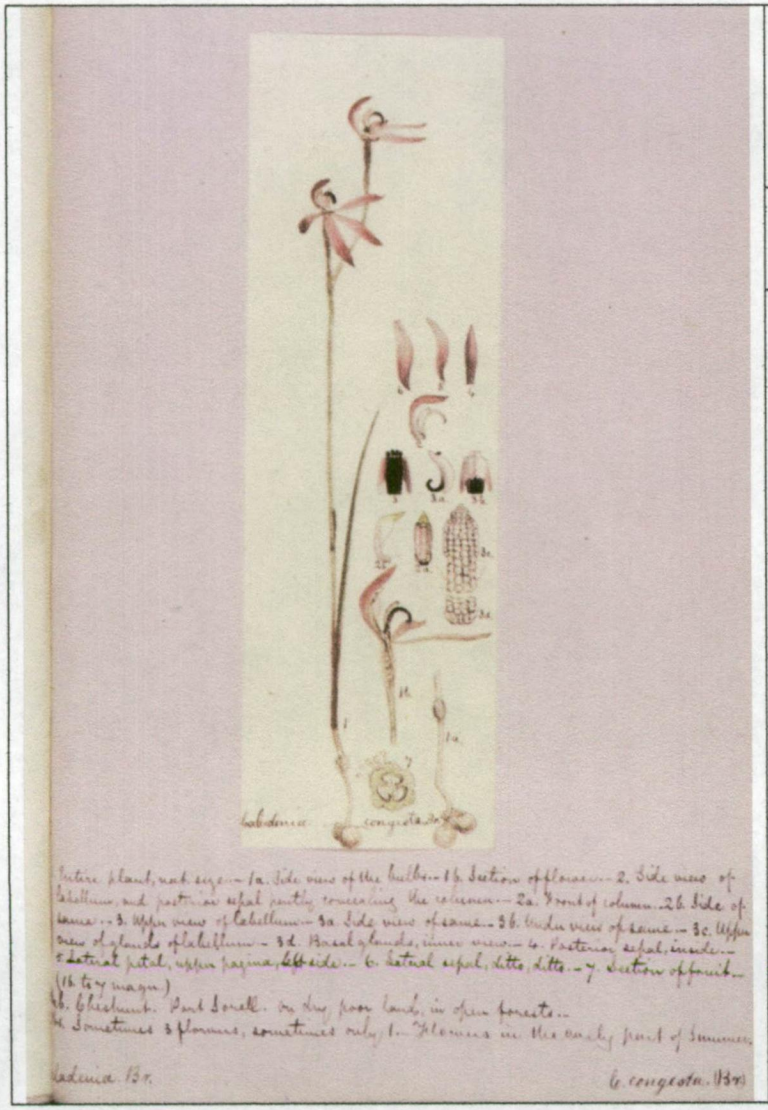
Flora Tasmaniae: Probably a common species, Hobarton, Cheshunt

Current: Locally fairly common in coastal and near-coastal areas up to 300 m, mostly in the north-west and south east, also on King Island. p. 56

Illustration used in *Flora Tasmaniae* (*Caladenia alata* Br.)

Caladenia: calos beautiful *adenos* gland

Fairy fingers



Identification of Illustration

Caladenia carnea Br.

Caladenia sp. [identification A. Hansen]
It is not possible to key this out positively to *C. carnea*, as it is also similar to *C. alata* R. Br. in appearance.

Where the Name was First Published

Caladenia carnea R.Br., Prodr. 324 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size. 1a. Side view of a flower.– 1b. Front view of a flower, looking obliquely downwards.– 1c. Section of flower.– 1d. Flower bud.– 2. Front of labellum & column.– 2a. Back of same.– 2b. Three-quarter view of column.– 2c. More correct outline of 2b.– 3. Ditto of labellum.– 3a. Upper view of same.– 3b. Section of same.– 3c. Apex of same.– 4. Inner three-quarter & outer view of posterior sepal.– 5. Lateral petal, upper pagina, left side.– 6. Lateral sepal, ditto, ditto.– 7. Section of fruit.– (1a., 1c, 3c to 7, and the other drawings of Hairs etc magn.)

Hab. Cheshunt. Port Sorell. On good soil, in open forests.– also in sandy soil in shady places.

Obs. From 1 to 3, or even 4, flowers on a stem. Colour, from light to dark pink. Height from 3 to 4 inches [75 to 100 mm]. The lobes of the labellum are sometimes wholly white or pink; and the posterior sepal somewhat less curved. The flower sometimes almost entirely dark pink or rose colour. The column as at 2b, is not sufficiently curved; sec 2c.

Caladenia carnea (Br.)

[no date

Comparison of Distribution

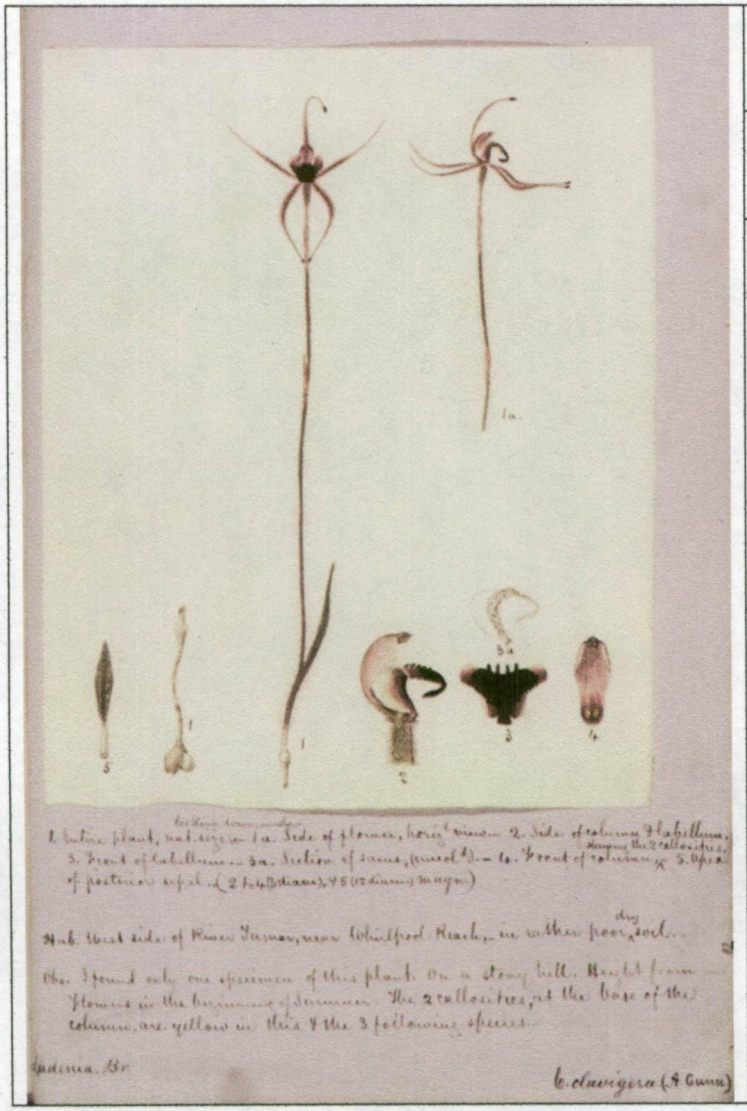
Flora Tasmaniae: Abundant throughout the Island

Current: Widespread and common. p. 67

Illustration was used for *C. carnea* R.Br. in *Flora Tasmaniae.*

Caladenia: calos beautiful: *adenos* gland

Pink fingers



Identification of Illustration

Caladenia clavigera A. Cunn. ex Lindl. [identification A. Hansen]

Where the Name was First Published

Caladenia clavigera A Cunn. ex Lindley, Gen. Sp. Orchid. Pl. 422 (1840)

Transcript of Archer's Notes

1. Entire plant nat. size looking downwards. 1a. side view of flower, horiz. view.– 2. Side of column & labellum. 3. Front of labellum.– 3a. Section of same, (uncoloured).– 4. Front of column, showing the 2 callosities of posterior sepal.– (2 to 4 (3 diam.), & 5 (12 diam.) magn.)

Hab. West side of River Tamar, near Whirlpool Reach, in rather poor, dry soil.

Obs. I found only one specimen of this plant. On a stony hill. Height from– [not completed]. Flowers in the beginning of Summer. The 2 callosities, at the base of the column, are yellow in this & the 3 following species.

Caladenia clavigera (A. Cunn.)

[no date]

Comparison of Distribution

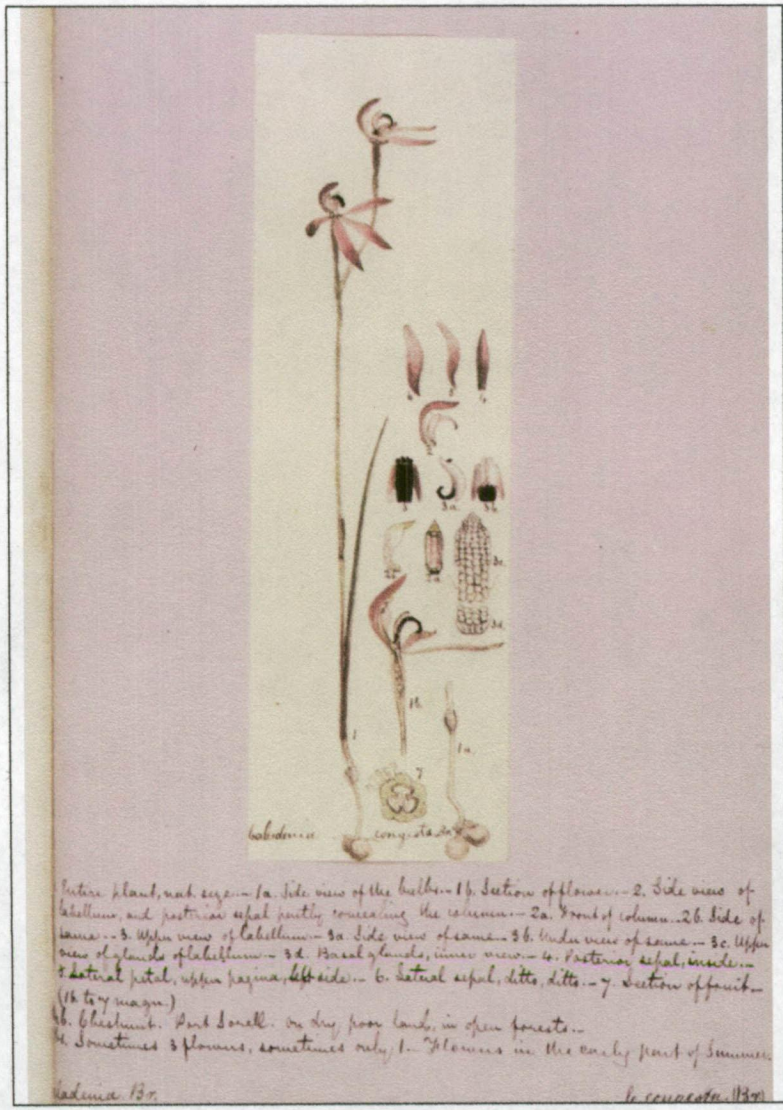
Flora Tasmaniae: Circular Head? West side of Tamar River, near Whirlpool Reach.

Current: Locally quite common in lowland areas up to 250 m in the eastern half of the State, including Flinders Island. p. 69

This illustration was used for *Caladenia clavigera* A. Cunn. in *Flora Tasmaniae*.

Caladenia: calos beautiful: *adenos* gland

Clubbed spider-orchid



Identification of Illustration

Caladenia congesta R.Br. [identification A. Hansen]

Where the Name was First Published

Caladenia congesta R.Br., Prodr. 324 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Side view of the bulb.– 1b. Section of flower.– 2. Side view of labellum, and posterior sepal partly concealing the column.– 2a. Front of column.– 2b. Side of same.– 3. Upper view of labellum.– 3a. Basal glands, inner view.– 4. Posterior sepal, inside.– 5. Lateral petal, upper pagina, left side.– 6. Lateral sepal, ditto, ditto.– 7. Section of fruit.– (1b. to 7 magn.)

Hab. Cheshunt. Port Sorell. On dry poor land, in open forests.

Obs. Sometimes 3 flowers, sometimes only 1. Flowers in the early part of Summer.

Caladenia congesta (Br.)

[no date]

Comparison of Distribution

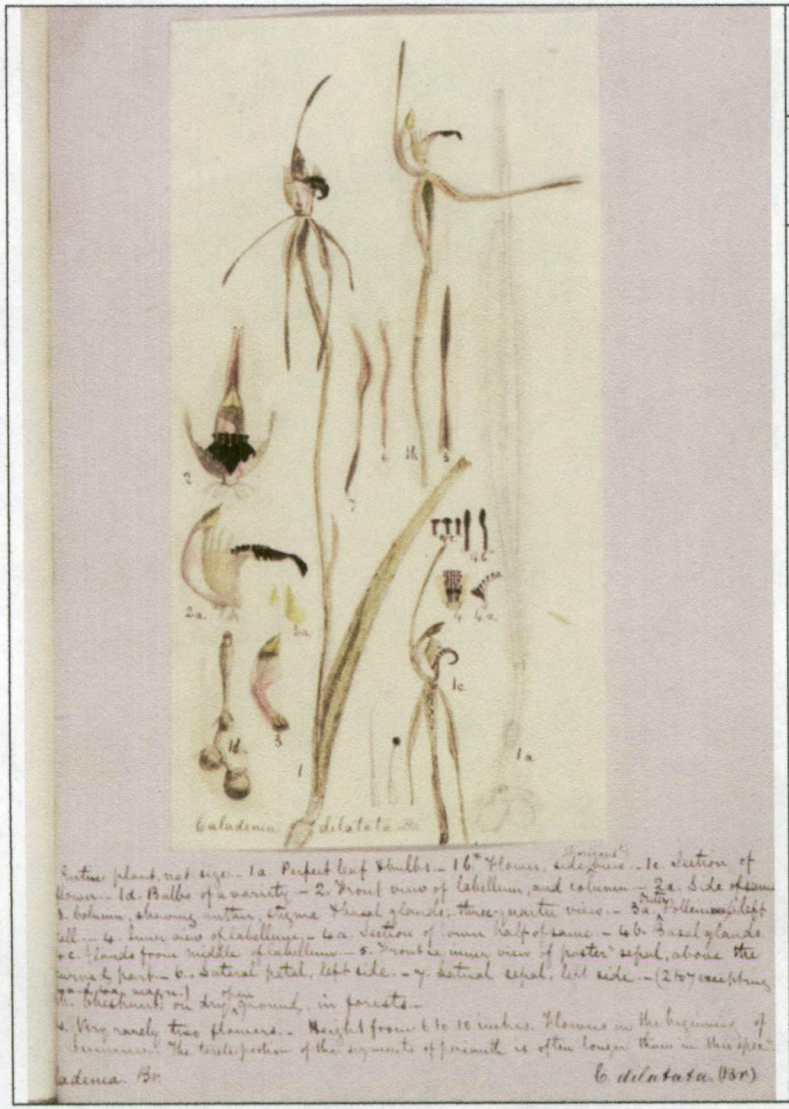
Flora Tasmaniae: Open forest land, Cheshunt and Port Sorrell.

Current: Localised and uncommon. From coastal lowland up to 600 m inland, in the central north and north-east. p. 70

This illustration was used for *Caladenia congesta* R.Br. in *Flora Tasmaniae.*

Caladenia: calos beautiful: *adenos* gland

Blacktongue finger-orchid



Identification of Illustration

Caladenia dilatata R.Br. [identification A. Hansen]

Where the Name was First Published

Caladenia dilatata R.Br., Prodr. 325 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. Perfect leaf & bulbs.– 1b*. Flower, side, horizontal view.– 1c. Section of flower.– 1d. Bulbs of a variety.– 2. Front view of labellum, and column.– 2a. Side of same.– 3. Column, showing anther, stigma & basal glands; three-quarter view.– 3a. Outer pollinia, left cell. 4. Inner view of labellum.– 4a. Section of lower half of same.– 4b. Basal glands.– 4c. Glands from middle of labellum.– 5. Front ie. inner view of posterior sepal, above the curved part.– 6. Lateral petal, left side.– 7. Lateral sepal, left side.– (2 to 7 excepting 4 and 4a. magn.)

Hab. Cheshunt; on dry open ground, in forests.

Obs. Very rarely two flowers. Height from 6 to 10 inches [150 to 255 mm]. Flowers in the beginning of Summer. The terete portion of the segments of perianth is often longer in this species.

Caladenia dilatata (Br.)

[no date]

Comparison of Distribution

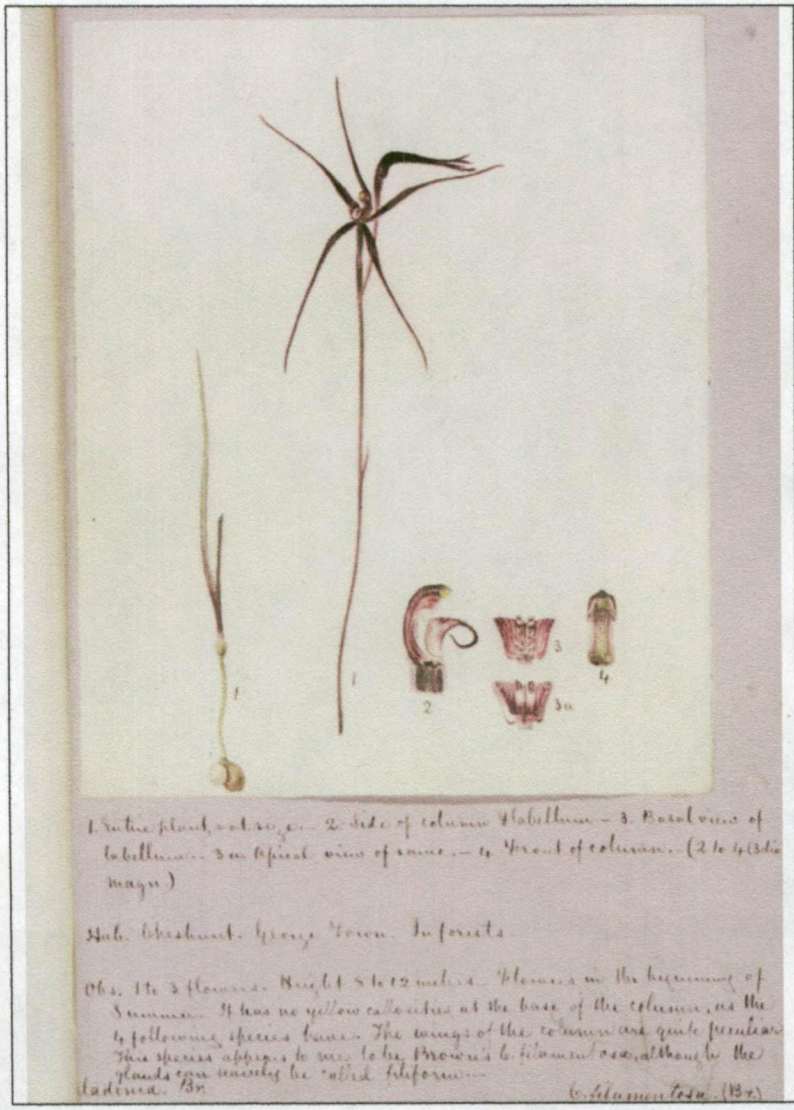
Flora Tasmaniae: Circular Head, forest lands near Cheshunt.

Current: Widespread and locally quite common in the eastern half of Tasmania, the north-west and Bass Strait islands, up to 500m. p. 74

This illustration was used for *Caladenia dilatata* R.Br in *Flora Tasmaniae*.

Caladenia: calos beautiful: *adenos* gland

Greencomb spider-orchid



Identification of Illustration

Caladenia filamentosa R. Br. [identification A. Hansen]

Where the Name was First Published

Caladenia filamentosa R.Br., Prodr. 324 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size.– 2. Side of column & labellum.– 3. Basal view of labellum.– 3a. Apical view of same.– 4. Front of column.– (2 to 4 (3 diam.) magn.)

Hab. Cheshunt. George Town. In forests.

Obs. 1 to 3 flowers. Height 8 to 12 inches [200 to 305 mm]. Flowers in the beginning of Summer. It has no yellow callosities at the base of the column. As the 4 following species have. The wings of the column are quite peculiar. This species appears to me to be Brown's *C. filamentosa*, although the glands can scarcely be called filiform.

Caladenia filamentosa (Br.)

[no date]

Comparison of Distribution

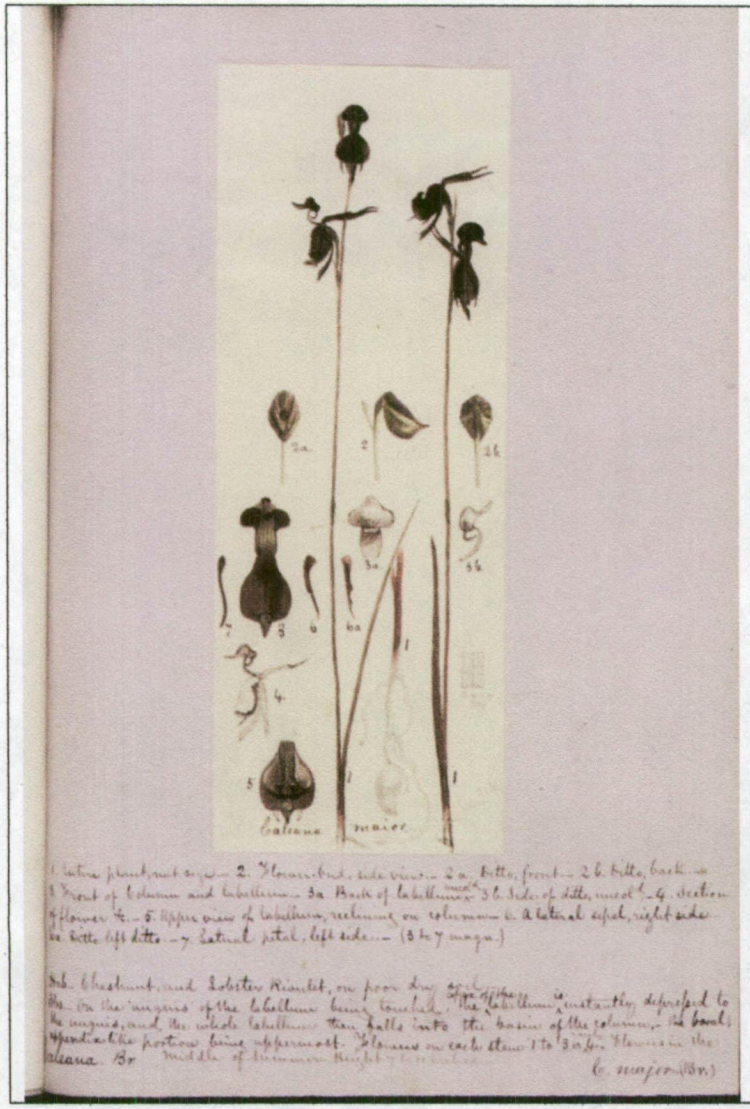
Flora Tasmaniae: Cheshunt and Georgetown.

Current: Uncommon and very localised in lowland areas up to 200 m in the eastern half of the State, including Flinders Island. p. 76

This illustration was used for *Caladenia filamentosa* R. Br. in *Flora Tasmaniae*.

Caladenia: calos beautiful: *adenos* gland

Daddy longlegs



Identification of Illustration

Caleana major R.Br. [identification A. Hansen]

Where the Name was First Published

Caleana major R.Br., Prodr. 329 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Flower-bud, side view.– 2a. Ditto, front.– 2b. Ditto, back.– 3. Front of column and labellum.– 3a. Back of labellum uncoloured.– 3b. Side of ditto, uncoloured.– 4. Section of flower etc.– 5. Upper view of labellum, reclining on column.– 6. A lateral sepal, right side.– 6a. Ditto left ditto.– 7. Lateral petal, left side.– (3 to 7 magn.)

Hab. Cheshunt, and Lobster Rivulet, on poor dry soil.

Obs. On the 'unguis' of the labellum being touched, the apex of the labellum is instantly depressed to the unguis, and the whole labellum then falls into the basin of the column,– the basal appendix-like portion being uppermost. Flowers on each stem 1 to 3 or rarely 4. Flowers in the middle of Summer. Height 7 to 11 inches [175 to 280 mm].

Caleana major (Br.)

[Jan 18th]

Comparison of Distribution

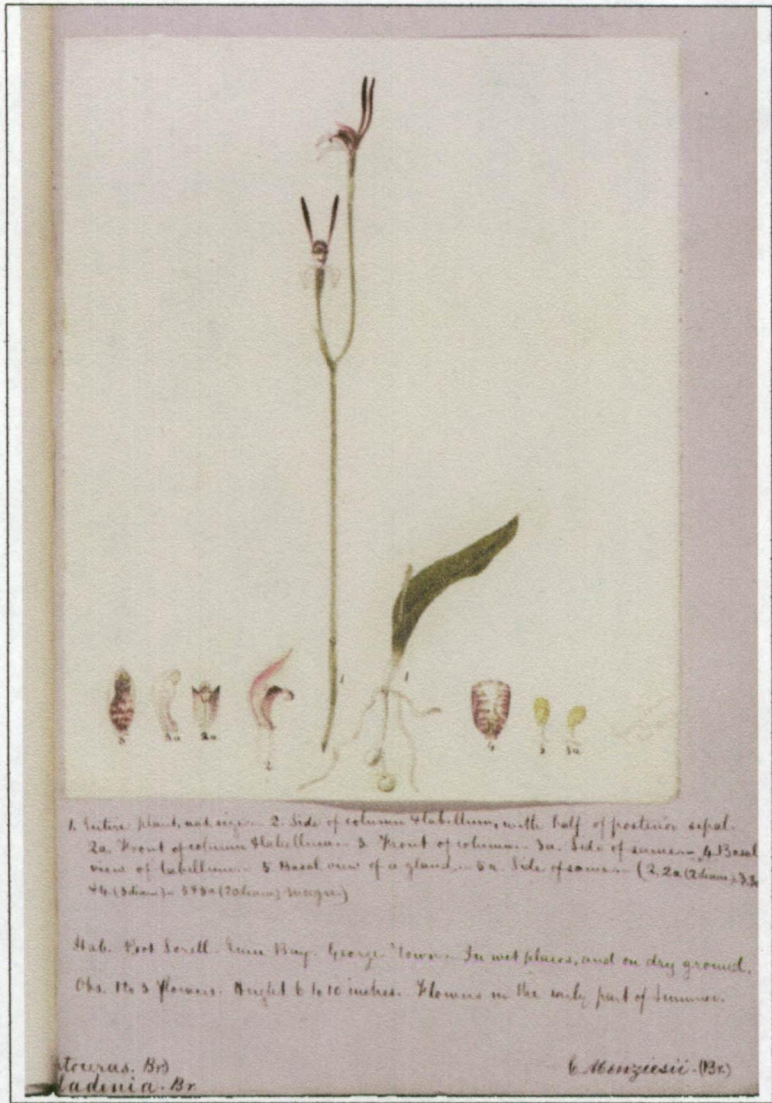
Flora Tasmaniae: Rocky Cape, Cheshunt, Hobarton, Huon River.

Current: Widespread and locally common in lowland areas below 250 m in the north, east and south-east …p. 95

This illustration was used for *Caleana major* R.Br. in *Flora Tasmaniae.*

Caleana: After G. Caley, early explorer in NSW

Flying duck-orchid



Identification of Illustration

Leptoceras menziesii. (R.Br.) Lindl. [identification A. Hansen]
The current name for *C. menziesii* is *Leptoceras menziesii*. (R.Br.) Lindl.

Where the Name was First Published

Letoceras menziesii (R.Br.) Lindley, Gen. Sp. Orchid. Pl. 416 (1840)

Transcript of Archer's Notes

1. Entire plant, nat. size. – 2. Side of column, with half of posterior sepal. 2a. Front of column & labellum.– 3. Front of column.– 3a. Side of same.– 4 Basal view of labellum.– Basal view of a gland.– 5a. Side of same.– (2, 2a. (2 daim.) – 3, 3a & 4 (5 diam.) – 5 & 5a. (20 diam.) magn.)

Hab. Port Sorell. Emu Bay. George Town.– In wet places, and on dry ground.

Obs. 1 to 3 flowers. Height 6 to 10 inches [150 to 255 mm].– Flowers in the early part of Summer.

Caladenia menziesii

[George Town Dec 10. 53]

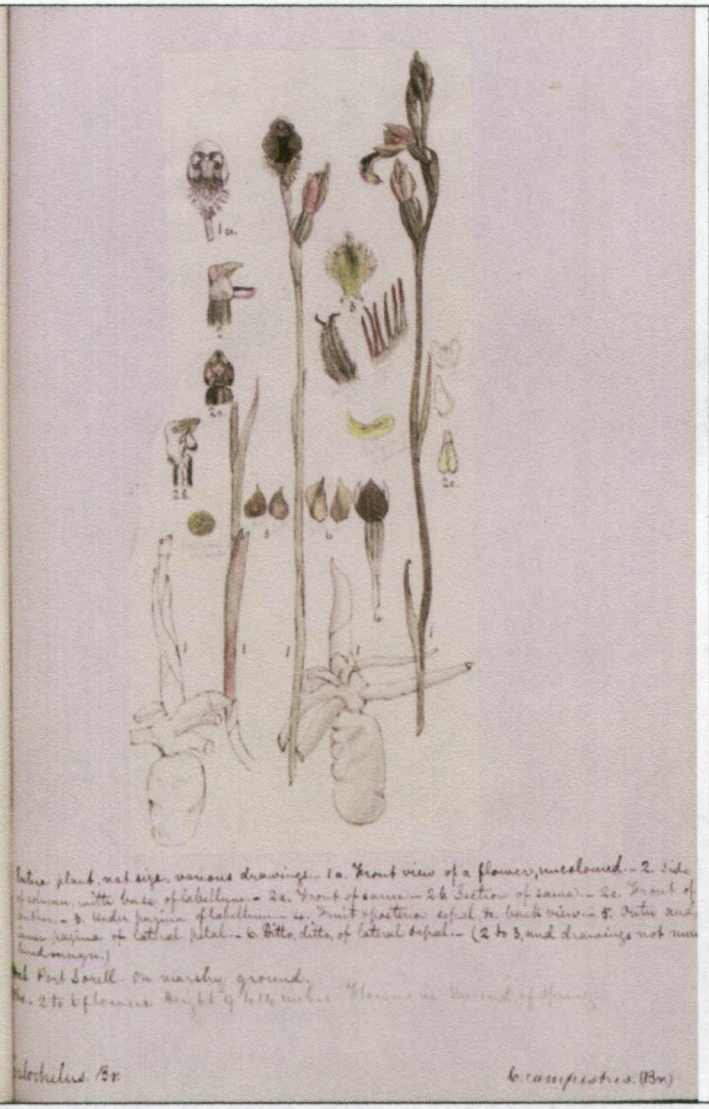
Comparison of Distribution

Flora Tasmaniae: Common in moist places throughout the Island.

Locally fairly common in lowland coastal and near-coastal areas mostly in the north, including King Island and the Furneaux Group. p. 164

This illustration was used for *Caladenia menziesii* R.Br. in *Flora Tasmaniae.*

Hares ears



Identification of Illustration

Calochilus herbaceus Lindl. [identification A. Hansen]
Calochilus campestris R.Br. is not found on mainland Tasmania. Archer's illustration is most likely that of *C. herbaceus*.

Where the Name was First Published

Calochilus campestris R.Br. Prodr. 320 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size, various drawings.– 1a. Front view of a flower, uncoloured.– 2. Side of column, with base of labellum.– 2a. Front of same.– 2b. Section of same.– 2c. Front of anther.– 3. Under pagina of labellum.– 4. Fruit & posterior sepal, etc back view.– 5. Outer and inner pagina of lateral petal.– 6. Ditto, ditto, of lateral sepal.– (2 to 3, and drawings not numbered magn.)

Hab. Port Sorell. On marshy ground.

Obs. 2 to 6 flowers. Height 9 to 14 inches [230 to 355 mm]. Flowers in the end of Spring.

Calochilus campestris (Br.)

[no date]

Comparison of Distribution

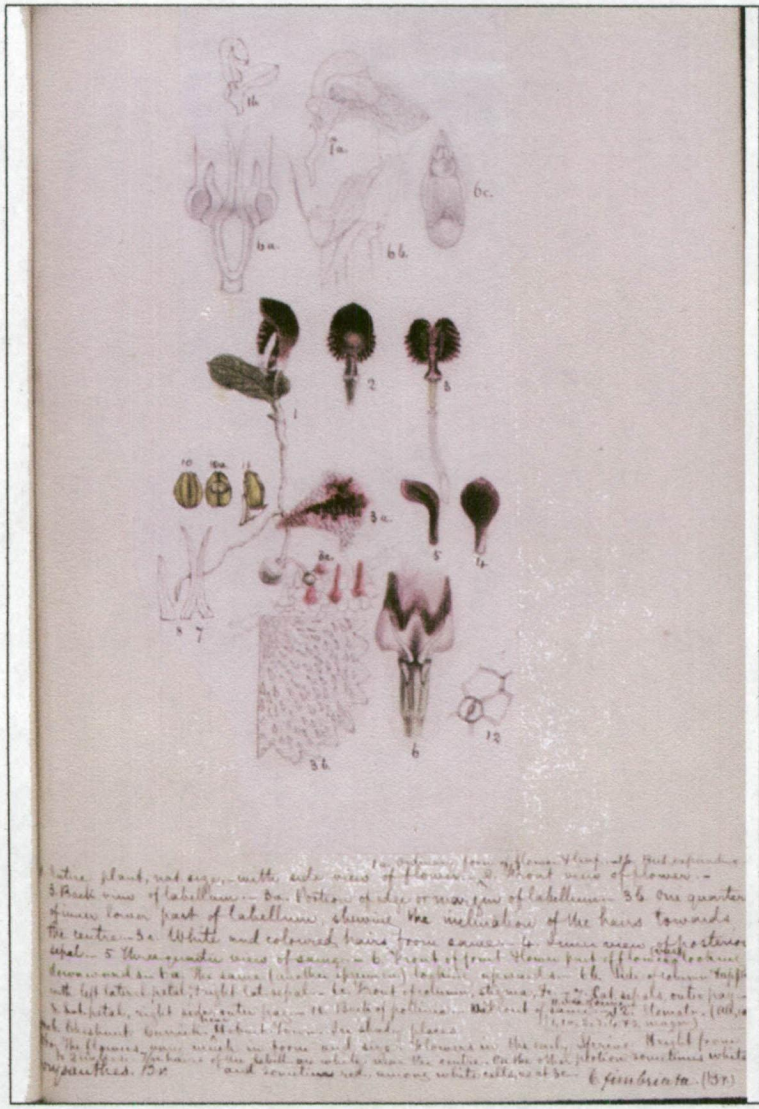
Flora Tasmaniae: Not uncommon in moist soil. Rocky Cape, Woolnorth, Port Sorrell, Huon River

Current: *Calochilus campestris* R.Br.
Only found on Clark Island. Confusing species *C. herbaceous* Lindl. [Possibly also *C. paludosus* R.Br., *C. robertsonii* Benth., all with similar distribution]
All are widespread and common in lowland areas...p. 99–102

This illustration was used for *C. campestris* R.Br. in *Flora Tasmaniae*.

Calochilus: calos beautiful: *chelis* lip

Copper beard-orchid



Identification of Illustration

Corybas diemenicus (Lindl.) Rchb.f. [identification A. Hansen]

Transcript of Archer's Notes

1. Entire plant nat. size.– with side view of flower.– 1a. Ordinary form of flower & leaf.– 1b. Bud, expanding.– 2. Front view of flower.–3. Back view of labellum.– 3a. Portion of edge or margin of labellum.– 3b. One quarter view of inner lower part of labellum, showing the inclination of the hairs towards the centre.– 3c. White and coloured hairs from same.– 4. Inner view of posterior sepal.– 5. Three-quarter view of same.– 6. Front of fruit & lower part of flower (var.) looking downwards.– 6a. The same (another specimen) looking upwards.– 6b. Side of column & appendix, with left lateral petal, & right lat. sepal.– 6c. Front of column, stigma. etc.– 7. Lat. sepals, outer pag.– 8. Lat. petal, right side, outer pag.–10 Back of pollinia.– 10a. Front of same.– 11. Side of same.– 12. Stomate. (All except 1, 1a, 2, 3, 4, & 5 magn.)

Hab. Cheshunt. Carrick. Near Hobart Town. In shady places.

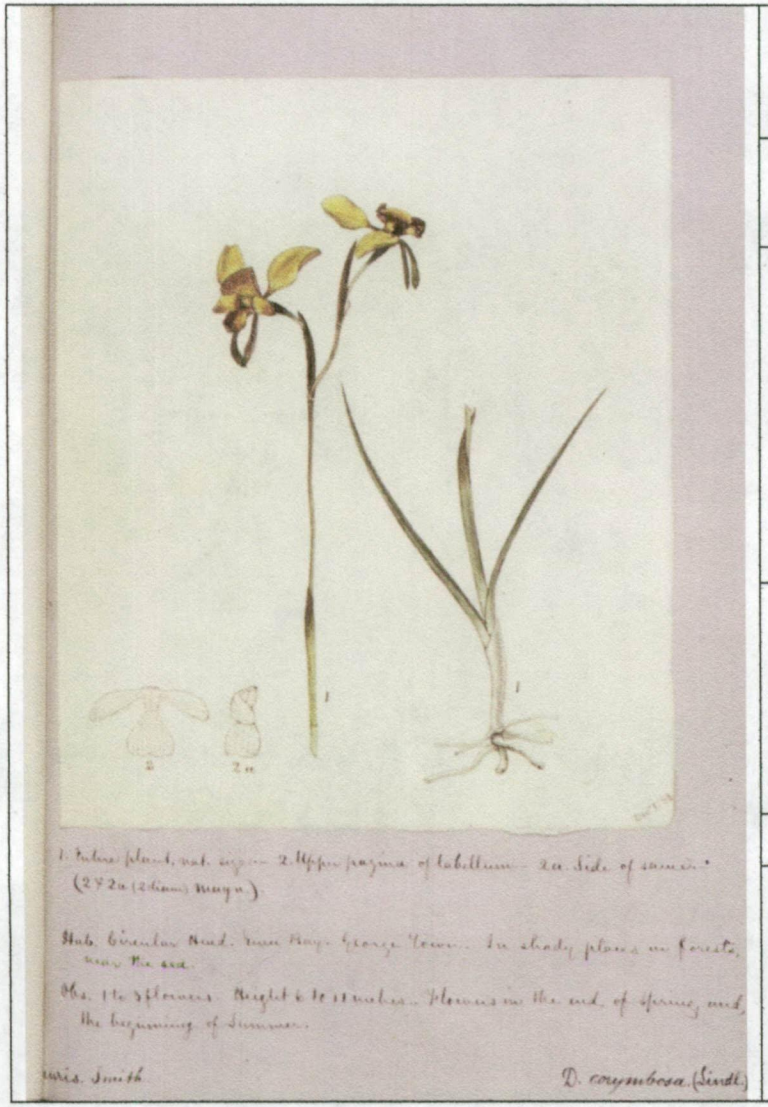
Obs. The flowers vary much in form and size. Flowers in the early Spring. Height from 1 to 2 inches [25 to 50 mm]. The hairs of the labell. are white near the centre. On the other portion sometimes white, and sometimes red, among white cells, as at 3c.

Coryanthes fimbriata (Br.)
[no date]

Comparison of Distribution

As Hooker combines the three species in *Flora Tasmaniae* it is not possible to compare distribution.

This illustration was used for *C. fimbriata* R.Br. in *Flora Tasmaniae*.



Identification of Illustration

Diuris orientis D.L. Jones [identification A. Hansen]
D. corymbosa endemic to WA. Tasmanian specimens are referrable to *D. orientis*.

Where the Name was First Published

Diuris orientis D.L.Jones, Austral. Orchid Res. 3: 77 (1998)

Transcript of Archer's Notes

1. Entire plant nat. size. 2. Upper pagina of labellum.– 2a. Side of same. (2 & 2a. (2 diam.) magn.)

Hab. Circular Head. Emu Bay. George Town. In shady places in forests, near the sea.

Obs. 1 to 3 flowers. Height 6 to 11 inches [150 to 280 mm].– Flowers in the end of Spring, and the beginning of Summer.

Diuris corymbosa. Lindl.

[Dec 1: 53]

Comparison of Distribution

Flora Tasmaniae: Common in northern parts of the Colony, as at Circular Head, Emu Bay, Georgetown, etc.

Current: Widespread but localised in coastal and near-coastal areas in the north… as well as the south-east on the Tasman Peninsula.
p. 138

This illustration was used for *D. corymbosa* Lindl. in *Flora Tasmaniae*.

Diuris: dis two: *oura* tail

Eastern wallflower orchid

Identification of Illustration

Diuris sulphurea R.Br. [identification A. Hansen]

Where the Name was First Published

Diuris sulphurea R.Br., Prodr. 316 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Bulbs etc. of another specimen.– 1b. Section of flower & fruit.– 2. Side of flower, (posterior sepal removed.)– 2a. Upper part of fruit, with back of column.– 2b. Back of column showing anther, & lacinia. (Br.) – 2h. Anther valves depressed, showing pollinia "in situ". – 2c. Stigma., with valves of anther behind.– 2d. The same, without anther valves.– 2e. Side of same.– 2f. Same as 2e from another specimen.– 2g. Lacinia of column (right side), (anth. obs.).– 3. Labellum, column, & posterior sepal of a variety.– 3a. Common form of labellum, (inner pag.).– 3b. Outer pag. of same.– 3c. Back of column, with side view of lacinia of labellum, etc.– 3d. Section of labellum at A.– 4. Inner pag. of posterior sepal. – 5. Same of lat. petal, right side.– 6. Lat. Sepals, inner pag. 7. Section of fruit.– (1b to 7 magn.)

Hab. Cheshunt. Westbury. Longford. Launceston. Hobart Town.

Obs. 2 to 6 flowers.– Height 8 to 20 inches [200 to 510 mm].– Flowers in the early part of Summer.

Diuris suphurea (Br.)

[Dec 21]

Comparison of Distribution

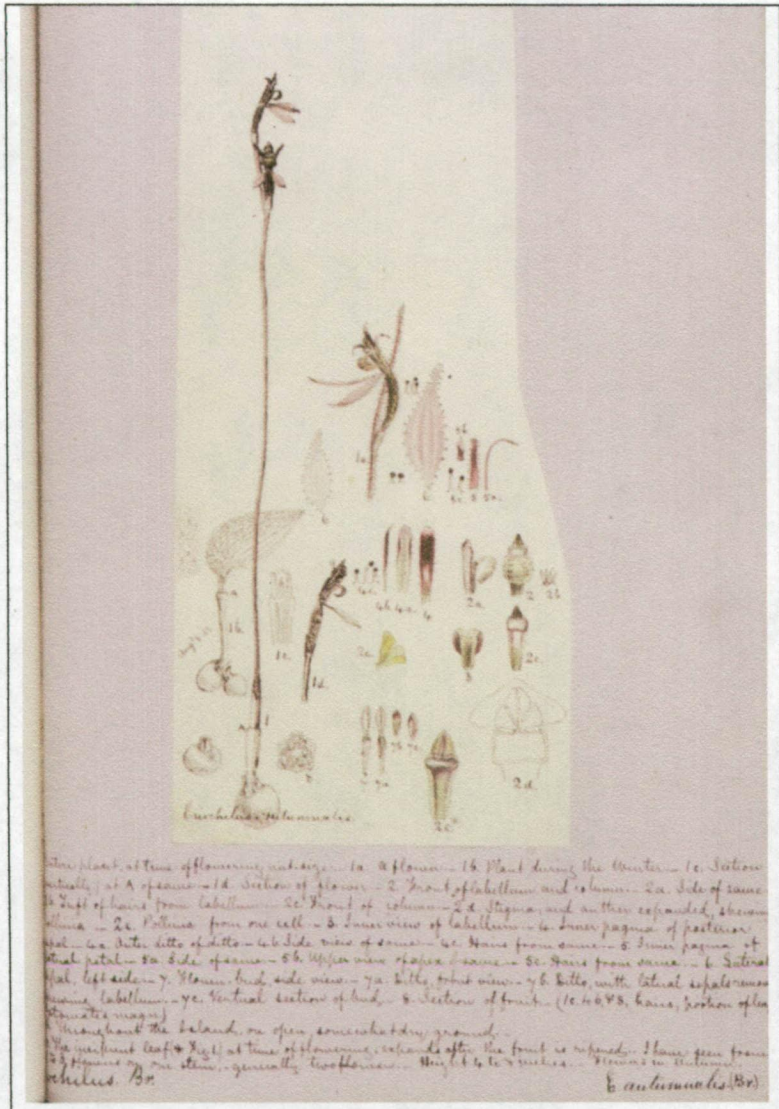
Flora Tasmaniae: Common in many parts of the Colony

Current: Widespread and locally quite common in lowland areas below 300 m in the eastern half of the State. p. 141

This illustration was used for *Diuris sulphurea* R.Br. in *Flora Tasmaniae*.

Diuris: dis two: *oura* tail

Tiger orchid



Identification of Illustration

Eriochilus cucullatus (Labill.) Rchb.f. [identification A. Hansen]
The current name for *E. cucullatus* (Labill.) Rchb.f. is *E. autumnalis* R.Br.

Where the Name was First Published

Eriochilus cucullatus (Labill.) Rchb.f., Beitr. Syst. Pflanzenk. 27 (1871)

Transcript of Archer's Notes

1. Entire plant at time of flowering nat. size.– 1a. A flower.– 1b. Plant during the Winter.– 1c. Section vertically at A of same.– 1d. Section of flower.– 2. Front of labellum and column.– 2a. Side of same.– 2b. Tuft of hairs from labellum.– 2c. Front of column.– 2d. Stigma, and anther expanded, showing pollinia.– 2e. Pollinia from one cell.– 3. Inner view of labellum.– 4. Inner pagina of posterior sepal.– 4a. Outer of ditto.– 4b. Side view of same.– 4c. Hairs from same.– 5. Inner pagina of lateral petal.– 5a.– Side of same.– 5b. Upper view of apex of same.– 5c. Hairs from same.– 6. Lateral sepal, left side.– 7. Flower-bud, side view.– 7a. Ditto, front view.– 7b. Ditto, with lateral sepals removed showing labellum.– 7c. Vertical section of bud.– 8. Section of fruit.– (1c to 6, & 8, hairs of leaf, stomates, magn.)

Hab. Throughout the Island, on open, somewhat dry ground.

Obs. The incipient leaf (* Fig. 1) at time of flowering, expands after the fruit is ripened. I have seen from 1 to 3 flowers on one stem, generally two flowers. Height 4 to 8 inches [100 to 205 mm]. Flowers in Autumn.

Eriochilus autumnalis (Br.)

[Aug 8:53]

Comparison of Distribution

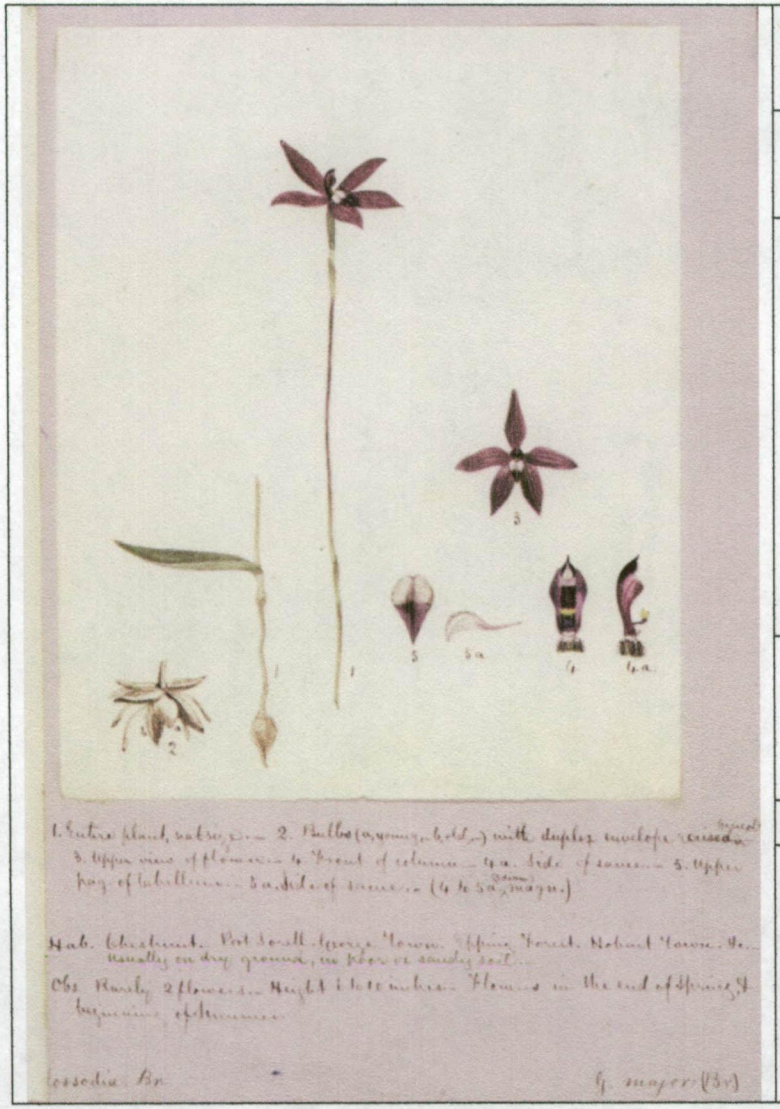
Flora Tasmaniae: Common in open and somewhat dry ground throughout the Island.

Current: Widespread and common throughout the State from lowland to sub-alpine areas. p. 146

This illustration was used for *E. autumnalis* R.Br. in *Flora Tasmaniae.*

Eriochilus: erion wool: *cheilos* lip

Autumn orchid



Identification of Illustration

Glossodia major R. Br. [identification A. Hansen]

Where the Name was First Published

Glossodia major R.Br., Prodr. 326 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size. 2. Bulbs (a. young, –b. old.) with duplex envelope roused (uncoloured).– 3. Upper view of flower.– 4. Front of column.– 4a. Side of same.– 5. Upper pag. of labellum.– 5a. Side of same.– (4 to 5a. (3 diam.) magn.)

Hab. Cheshunt. Port Sorell. George Town. Epping Forest. Hobart Town. etc. Usually on dry ground, in poor or sandy soil.

Obs. Rarely 2 flowers.– Height 6 to 10 inches [150 to 255 mm]. Flowers in the end of Spring, & beginning of Summer.

Glossodia major (Br.)

[no date]

Comparison of Distribution

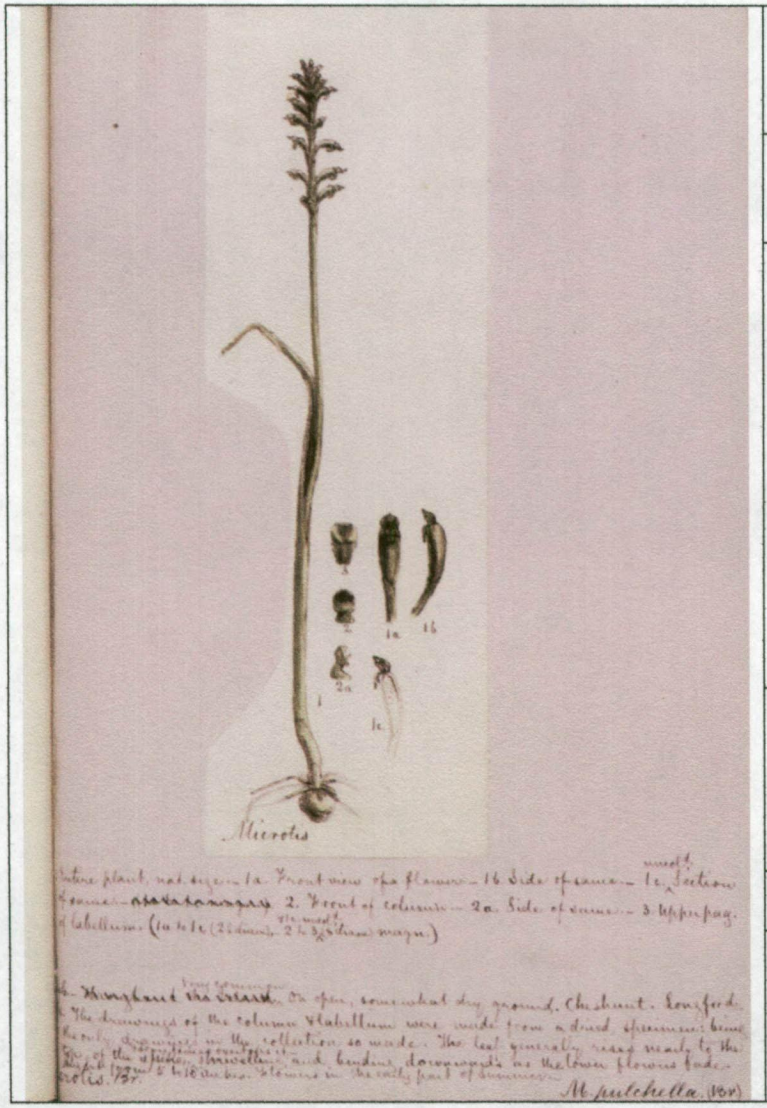
Flora Tasmaniae: Common in poor sandy soil throughout the Colony.

Current: Widely distributed and often abundant in eastern and northern Tasmania. p. 162

This illustration was used for *Glossodia major* R. Br. in *Flora Tasmaniae*.

Glossodia: glossa tongue: *odes* alike, similar to

Waxlip orchid



Identification of Illustration

Microtis [identification A. Hansen]
This illustration cannot be keyed out, but it may be referable to *M. unifolia* (G. Forst.) Rchbf.f..

Where the Name was First Published

Microtis uniflora (G.Forst.) Rchb.f., Beitr. Syst. Pflanzenk. 62 (1871)

Transcript of Archer's Notes

1. Entire plant, nat size.– 1a. Front view of a flower.– 1b. Side of same.– 1c. Uncol'd section of same. 2. Front of column.– 2a. Side of same. – Upper pag. of labellum. (1a. to 1c. (2 ½ diam.), – 2 to 3 (8 diam.) magn.)

Hab. ~~Throughout the Island~~ Very common. On open, somewhat dry ground. Cheshunt. Longford.

Obs. The drawings of the column & labellum were made from a dried specimen being the only drawings in the collection so made. The leaf generally rises nearly to the top of the spike & sometimes overtops it, shriveling and bending downwards as the lower flowers fade. Height 5 to 10 inches [125 to 255 mm]. Flowers in the early part of Summer.

Microtis pulchella Br

No date

Comparison of Distribution

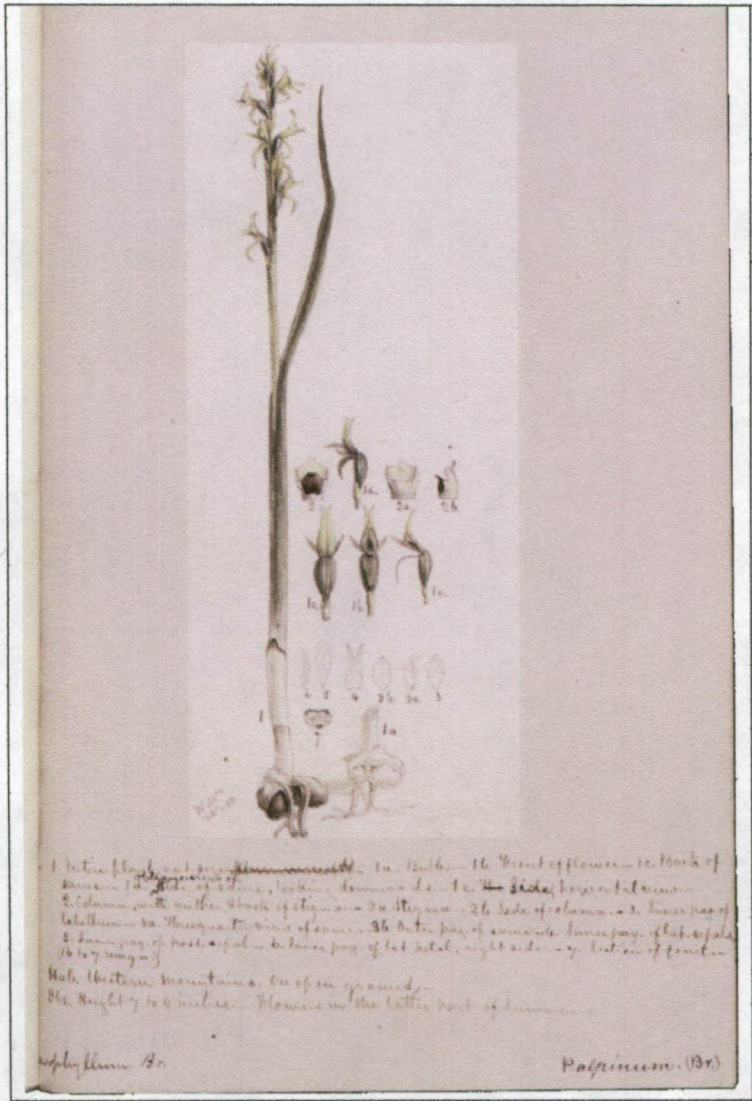
Flora Tasmaniae: Abundant in sandy soil throughout the Island.

Current: Widespread and abundant in lowland areas throughout the State except in the south-west. p. 174

This illustration was used for *M. pulchella* R.Br. in *Flora Tasmaniae.*

Microtis: micros small: *otis* ear

Common onion orchid



Identification of Illustration

Prasophyllum alpinum R.Br. [identification A. Hansen]
It is not possible to key out the illustration further, however Archer's notes on scape length, distribution and habitat would suggest that it is referable to *P. alpinum* R.Br.

Where the Name was First Published

Prasophyllum alpinum R.Br., Prodr. 318 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size. 1a. Bulbs.– 1b. Front of flower.– 1c. Back of same.– 1d. Oblique view of side of same, looking downwards.– 1e. Side, horizontal view.– 2. Column, with anther, & back of stigma.– 2a. Stigma.– 2b. Side of column.– 3. Inner page of labellum.– 3a. Three-quarter view of same.– 3b. Outer pag. of same.– 4. Inner pag. of lat. sepals.– 5. Inner pag of post sepal.– 6. Inner pag. of lat petal, right side.– 7. Section of fruit. (1b to 7 magn.)

Hab. Western Mountains. On open ground.

Obs. Height 7 to 9 inches [175 to 230 mm]. Flowers in the latter part of Summer.

Prasophyllum alpinum (Br.)

[WMcs Feb 8:50]

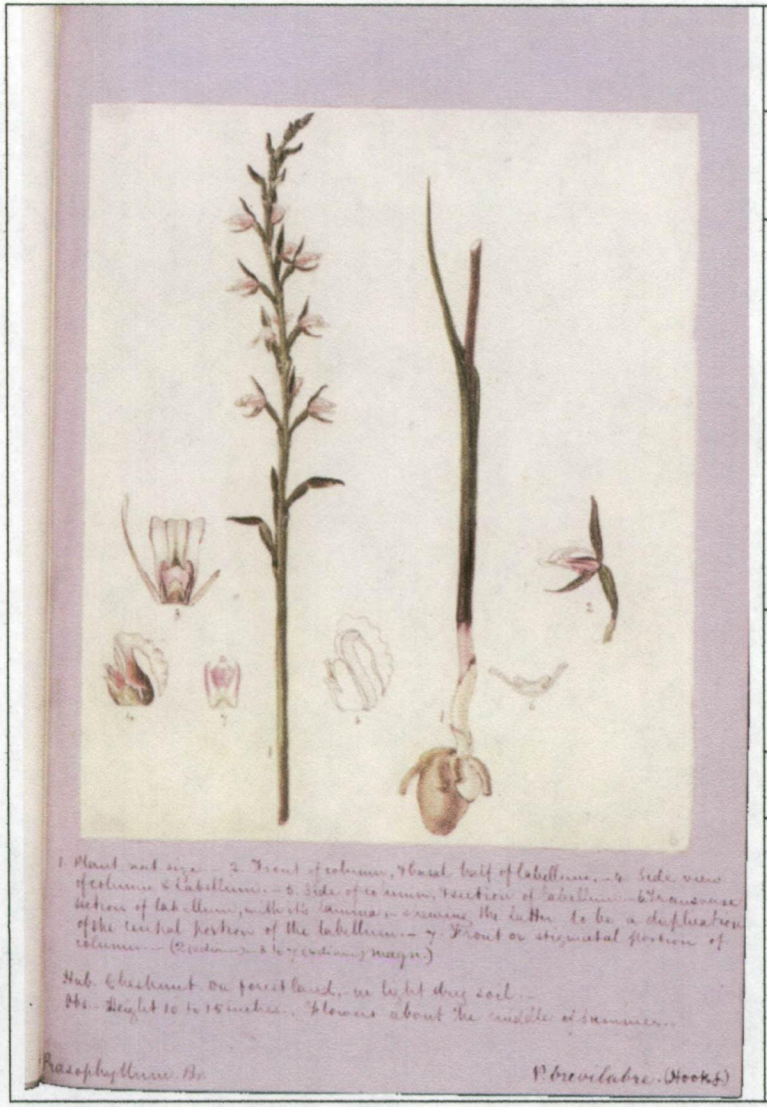
Comparison of Distribution

Flora Tasmaniae: Circular Head, Mount Wellington, Western Mountains. Australian Alps (Mueller)

Current: Uncommon and localised in low-land areas, most strongly represented in coastal and near-coastal parts of the south-east and central north. p. 194

This illustration was used for *Prasophyllum alpinum* R.Br.in *Flora Tasmaniae*

Prasophyllum: prason leek: *phyllon* leaf



Identification of Illustration

P. brevilabre (Lindl.) Hook. f.. [identification A. Hansen]

Where the Name was First Published

Prasophyllum brevilabre (Lindley) Hook.f., Fl. Tasm. 2:11,t.110A (1858)

Transcript of Archer's Notes

1. Plant, nat. size.– 2. Front of column, & basal half of labellum.– [3. front view of labellum, column, & lateral sepal].– 4. Side view of column & labellum.– 5. Side of column, & section of labellum.– 6. Transverse section of labellum, with its lamina, showing the latter to be a duplication of the central portion of the labellum.– 7. Front of stigmatal portion of column.– (2 (2 diam.), 3 to 7 (4 diam.) magn.)

Hab. Cheshunt. On forest land, in light dry soil.

Obs. Height 10 to 15 inches [255 to 380 mm]. Flowers about the middle of Summer.

Prasophyllum brevilabre (Hook.f.)

[no date]

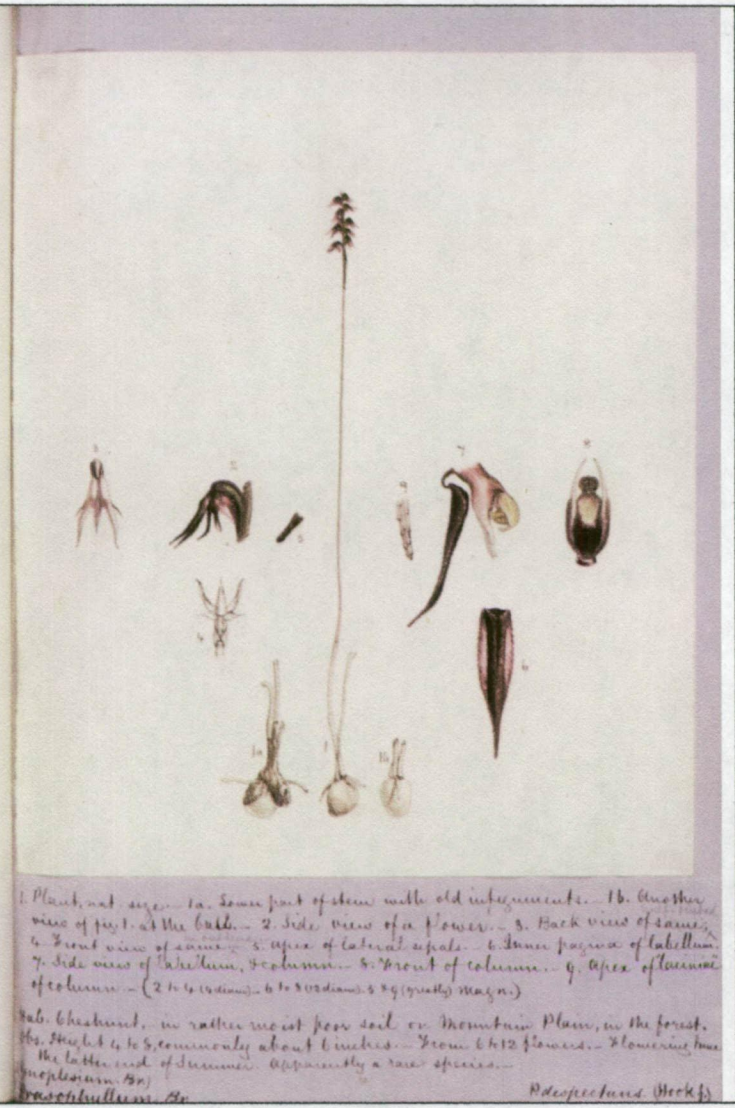
Comparison of Distribution

Flora Tasmaniae: Rocky Cape, Cheshunt.
Current: Widespread and common from lowland to 700 m on the Central Plateau. p. 186

This illustration was used for *P. brevilabre* Hook.f. in *Flora Tasmaniae*.

Prasophyllum: prason leek: *phyllon* leaf

Shortlip leek-orchid



1. Plant, nat. size.– 1a. Lower part of stem with old integuments.– 1b. Another view of fig. 1. at the bulb.– 2. Side view of a flower.– 3. Back view of same.– 4. Front view of same.– 5. Apex of lateral sepals.– 6. Inner pagina of labellum.– 7. Side view of labellum, & column.– 8. Front of column.– 9. Apex of lacineae of column.– (2 to 4 (4 diam.) 5 & 9 (greatly) magn.)

Hab. Cheshunt, in rather moist poor soil on Mountain Plain, in the forest.

Obs. Height 4 to 8 [100 to 200 mm], commonly about 6 inches [150 mm]. From 6 to 12 flowers.– Flowering time the latter end of Summer. Apparently a rare species.

Prasophyllum despectans (Hook.f.)

[no date]

Identification of Illustration

Corunastylis despectans (Hook.f.) D.L. Jones & M.A. Clem. [identification A. Hansen]

Where the Name was First Published

Corunastylis despectans (Hook.f.) D.L.Jones & M.A.Clem., Orchadian 13(10): 461 (2002)

Transcript of Archer's Notes

1. Plant nat. size.– 1a. Lower part of stem with old integuments.– 1b. Another view of fig. 1 at the bulb.– 2. Side view of a flower.– 3. Back view of same, half tinted.– 4. Front view of same, in outline.– 5. Apex of lateral sepals.– 6. Inner pagina of labellum. 7. Side view of labellum, & column.– 8. Front of column.– 9. Apex of lacineae of column.– (2 to 4 (4 diam.) 5 & 9 (greatly) magn.)

Hab. Cheshunt, in rather moist poor soil on Mountain Plain, in the forest.

Obs. Height 4 to 8 [100 to 200 mm], commonly about 6 inches [150 mm]. From 6 to 12 flowers.– Flowering time the latter end of Summer. Apparently a rare species.

Prasophyllum despectans (Hook.f.)

[no date]

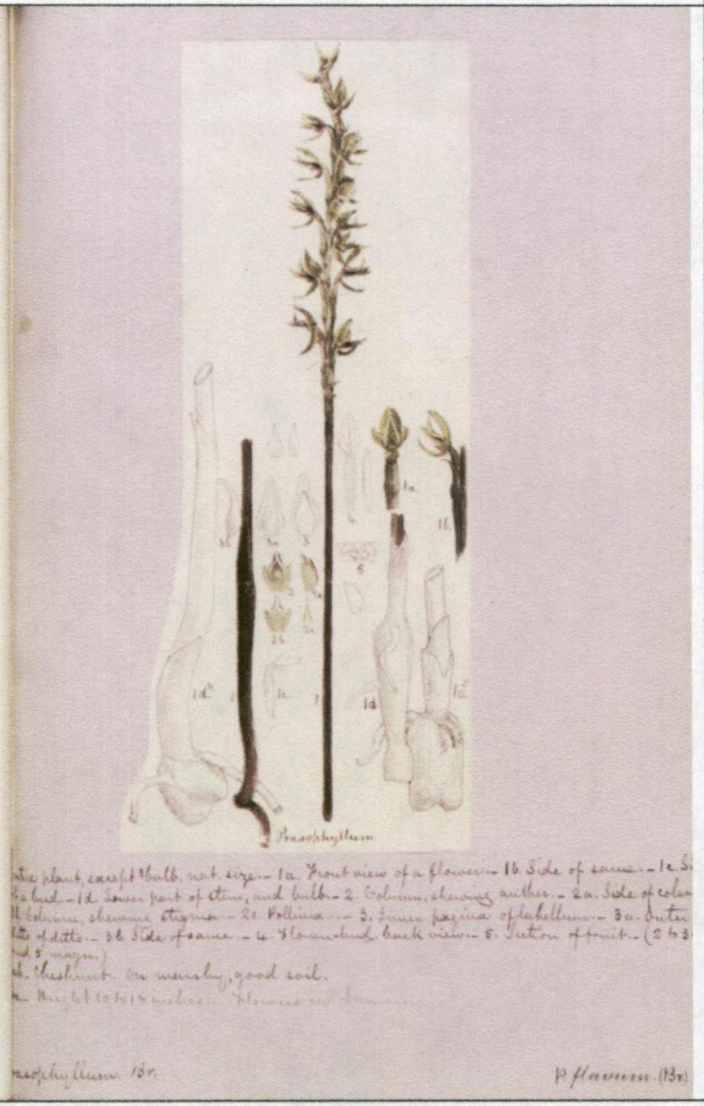
Comparison of Distribution

Flora Tasmaniae: Near Hobarton: Cheshunt?

Current: Widespread and locally fairly common in most lowland areas up to 400 m…but absent from the Midlands. [Archer collected the type specimen for this] p. 152

This illustration was used for *Prasophyllum despectans* H.f. in *Flora Tasmaniae*

Corunastylis: *koryne* club: *stylos*, column or pillar



Prasophyllum flavum R.Br.

Identification of Illustration

P. flavum R.Br. [identification A. Hansen]

Where the Name was First Published

Prasophyllum flavum R.Br., Prodr. 318 (1810)

Transcript of Archer's Notes

1. Entire plant, excepting bulb, nat. size.– 1a. Front view of a flower.– 1b. Side of same.– 1c. Side of a bud.– 1d. Lower part of stem, and bulb.– 2. Column, showing anther.– 2a. Side of column.– 2b. Column, showing stigma.– 2c. Pollinia.– 3. Inner pagina of labellum.– 3a. Outer ditto of ditto.– 3b. Side of same.– 4. Flower-bud, back view.– 5. Section of fruit. (2 to 3b, and 5 magn.)

Hab. Cheshunt. On marshy, good soil.

Obs. Height 10 to 18 inches [255 to 460 mm]. Flowers in Summer.

Prasophyllum flavum (Br.)

[no date]

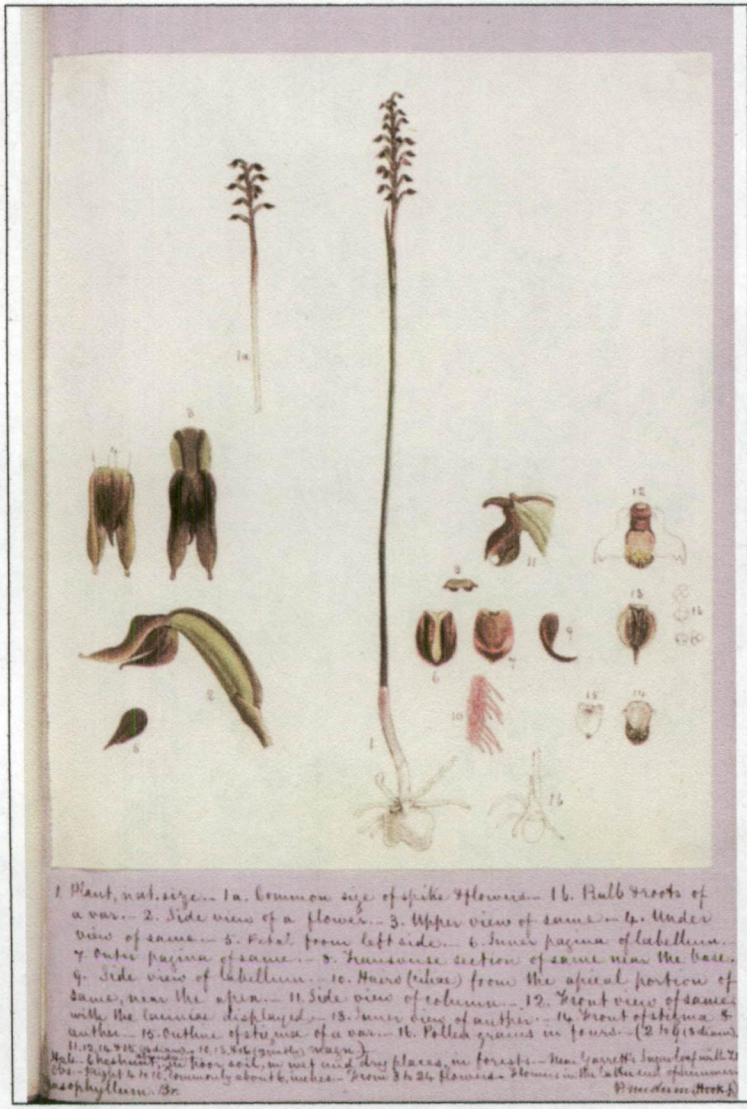
Comparison of Distribution

Flora Tasmaniae: Cheshunt, Huon River.

Current: Uncommon and localised in lowland areas up to 400 m, mainly in the eastern half of the State...p .192

This illustration may have been used as the basis for *Prasophyllum flavum* R. Br. In *Flora Tasmaniae*

Prasophyllum: prason leek: *phyllon* leaf



1. Plant, nat. size.– 1a. Common size of spike & flowers.– 1b. Bulb & roots of a var.– 2. Side view of a flower.– 3. Upper view of same.– 4. Under view of same.– 5. Petal from left side.– 6. Inner pagina of labellum.– 7. Outer pagina of same.– 8. Transverse section of same near the base.– 9. Side view of labellum.– 10. Hairs (ciliae) from the apical portion of same, near the apex.– 11. Side view of column.– 12. Front view of same, with the lacinia displayed.– 13. Inner view of anther.– 14. Front of stigma & anther.– 15. Outline of stigma of a var.– 16. Pollen grains in fours.– (2 to 9 (3 diam.) 11, 12, 14 & 15 (16 diam.) 10, 13, & 16 (greatly) magn.)

Hab. Cheshunt abundant in poor soil, in wet and dry places in forests. Near Garrett's Sugar-loaf with T.I.

Obs. Height 4 to 10 [100 to 255 mm], commonly around 6, inches [150 mm].– From 3 to 24 flowers.– Flowers in the latter end of Summer.

Prasophyllum nudum (Hook.f.)

[no date]

Identification of Illustration

Corunastylis nuda (Hook.f.) D.L. Jones & M.A. Clem. [identification A. Hansen]

Where the Name was First Published

Corunastylis nuda (Hook.f.) D.L.Jones & M.A.Clem., Orchadian 13(10): 461 (2002)

Transcript of Archer's Notes

1. Plant nat. size.– 1a. Common size of spike & flowers.– 1b. Bulb & roots of a var. 2. Side view of a flower.– 3. Upper view of same. 4. Under view of same.– 5. Petal from left side. 6. Inner pagina of labellum.– 7. Outer pagina of same.– 8. Transverse section of same near the base.– 9. Side view of labellum.– 10. Hairs (ciliae) from the apical portion of same, near the apex.– 11. Side view of column.– 12. Front view of same, with the lacinia displayed.– 13. Inner view of anther.– 14. Front of stigma & anther.– 15. Outline of stigma of a var.– 16. Pollen grains in fours.– (2 to 9 (3 diam.) 11, 12, 14 & 15 (16 diam.) 10, 13, & 16 (greatly) magn.)

Hab. Cheshunt abundant in poor soil, in wet and dry places in forests. Near Garrett's Sugar-loaf with T.I.

Obs. Height 4 to 10 [100 to 255 mm], commonly around 6, inches [150 mm].– From 3 to 24 flowers.– Flowers in the latter end of Summer.

Prasophyllum nudum (Hook.f.)

[no date]

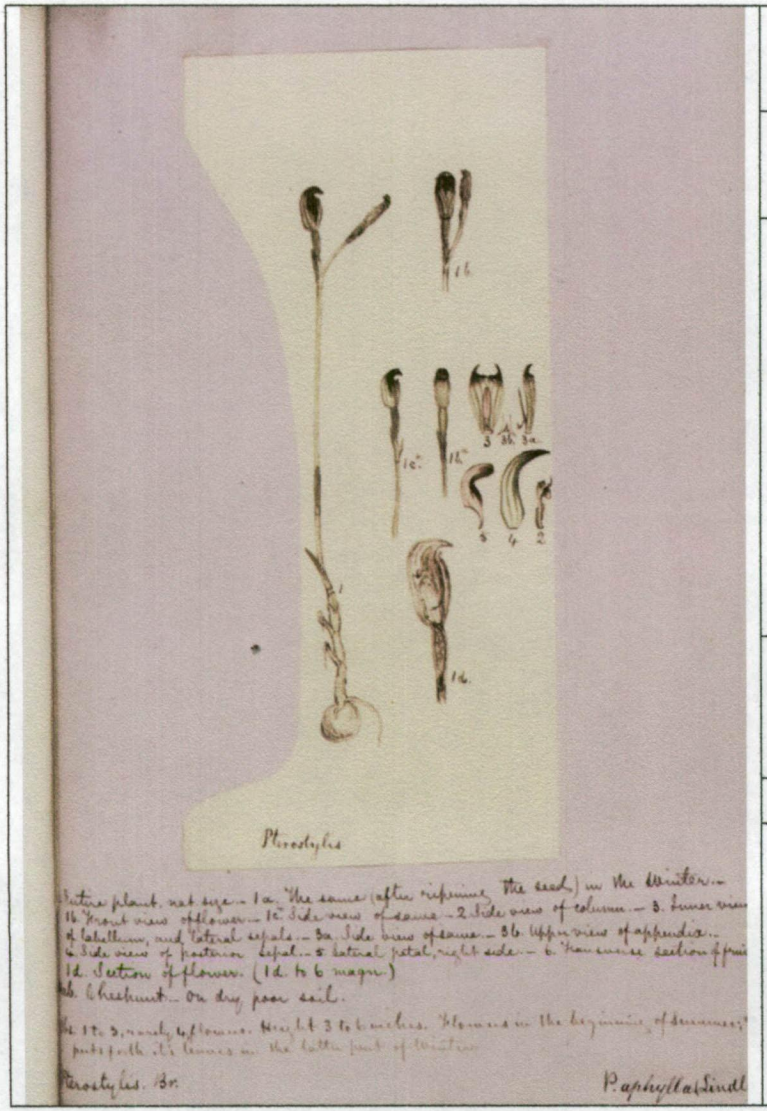
Comparison of Distribution

Flora Tasmaniae: Collected by Gunn, but I do not know where.

Current: Uncommon and localised in coastal and near-coastal lowland…p. 158

This illustration was used for *Prasophyllum nudum* H.f. in *Flora Tasmaniae*

Corunastylis: *koryne* club: *stylos*, column or pillar



Identification of Illustration

Speculantha parviflora (R.Br.) D.L. Jones & M.A. Clem. [identification A. Hansen]

Where the Name was First Published

Speculantha aphylla (Lindley), D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 82 (2002)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. The same (after ripening the seed) in the Winter. 1b. Front view of flower.– 1c*. Side view of same.– 2. Side view of column.– 3. Inner view of labellum, and lateral sepals. 3a. Side view of same.– 3b. Upper view of appendix.– 4. Side view of posterior sepal.– 5. Lateral petal, right side.– 6. Transverse section of fruit. 7. Section of flower. (1d. to 6 magn.)

Hab. Cheshunt. On dry poor soil.

Obs. 1 to 3, rarely 4, flowers. Height 3 to 6 inches [75 to 150 mm]. Flowers in the beginning of Summer; & puts forth its leaves in the latter part of Winter.

Pterostylis aphylla (Lindl.)

[no date]

Comparison of Distribution

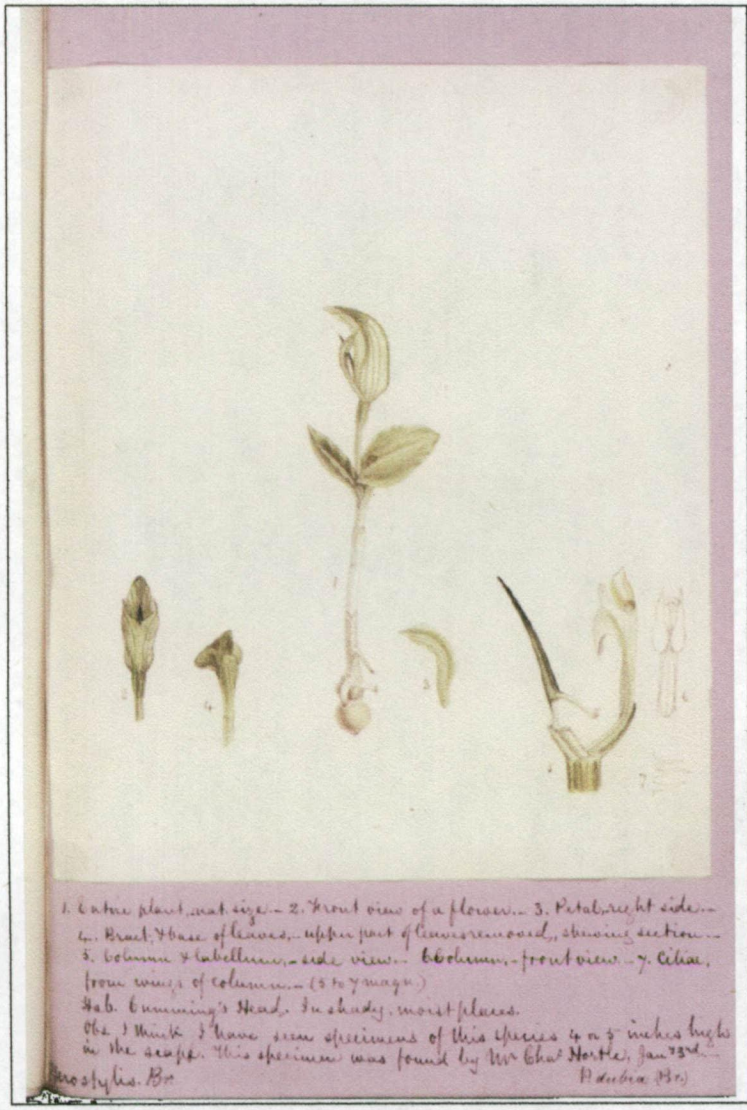
Flora Tasmaniae: Circular Head, Huon River, Cheshunt. Swan River.
Current: Widespread but only localised and never numerous, from coastal lowland to 800 m on the Central Plateau. Endemic to Tasmania. p. 215

This illustration was used for *Pterostylis aphylla* Lindl. in *Flora Tasmaniae*.

Speculantha: *speculum* mirror: *anthos*, flower

Leafless greenhood

Curtis notes: "*P. parviflora* is often considered to be conspecific with *P. aphylla*. I have recognized the two species as distinct in Tasmania distinguishing *P. aphylla* by it's invariable absence of leaves at the time of flowering...Although flowers of both spp. may sometimes be found in Winter the usual flowering time of *P. aphylla* in lowland habitats is in Spring to early Summer." Also "*P. parviflora* ...flowering stem very slender but almost wiry." Curtis, W. & Morris, D. *The Student's Flora of Tasmania,* Part 4a, Government Printer Tasmania, 1979, pp 23–24.



Identification of Illustration

It is not possible to key out this illustration further.

Where the Name was First Published

Pterostylis dubia R.Br., Prodr. 328 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Front view of a flower.– 3. Petal, right side.– 4. Bract, & base of leaves, upper part of leaves removed, showing section.– 5. Column & labellum, side view.– 6. Column, front view.– 7. Ciliae, from wings of column.– (5 to 7 magn.)

Hab. Cumming's Head. In shady, moist places.

Obs. I think I have seen specimens of this species 4 or 5 inches [100 or 125 mm] high in the scape. This specimen was found by Mr Charles Hortle, Jan 3rd.

Pterostylis dubia (Br.)

[Jan 3rd]

Comparison of Distribution

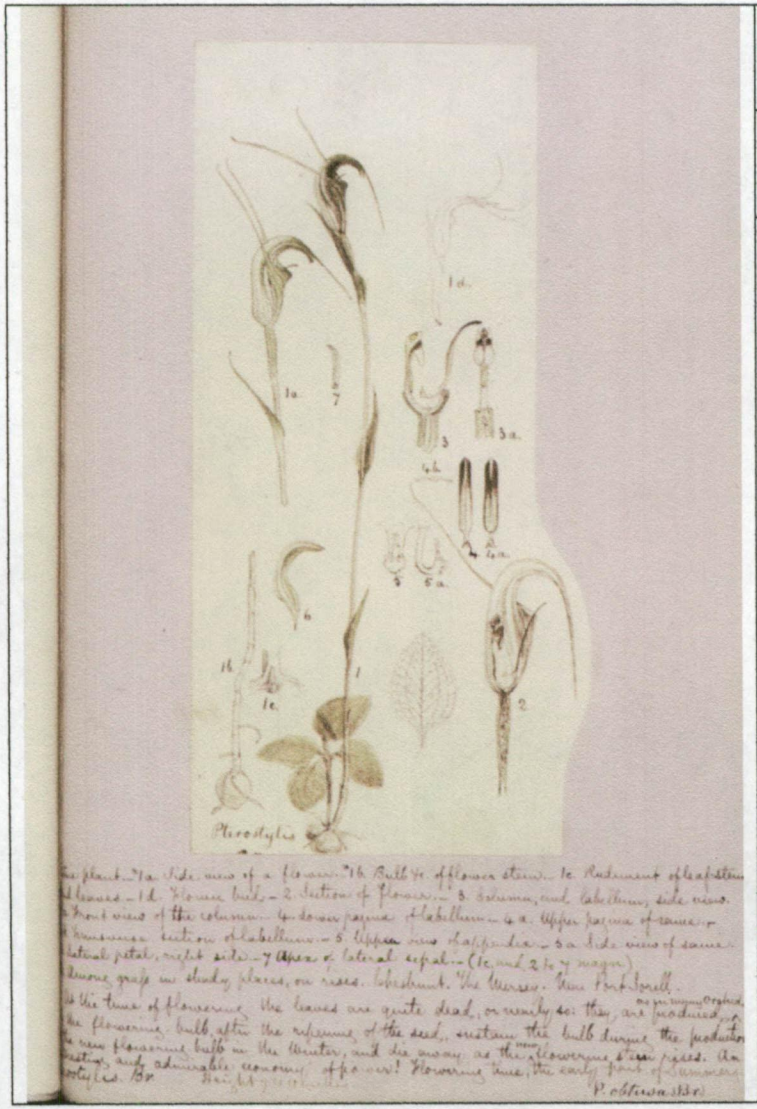
Flora Tasmaniae: Cumming's Head in shaded places.

Current: Widespread and locally fairly common in central and southern parts of the State, most commonly at 500–1000 m. Endemic to Tasmania. p. 224

This illustration was used for *P. dubia* R.Br. in *Flora Tasmaniae*.

Pterostylis: pteron wing; *stylis* style or column

Bluetongue greenhood



Identification of Illustration

Diplodium decurvum (R.S. Rogers) D.L.Jones & M.A.Clem. [identification A. Hansen]

Where the Name was First Published

Diploddium atrans (D.L.Jones) D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 70 (2002)

Transcript of Archer's Notes

1. Entire plant .– *1a. Side view of a flower.– *1b. Bulb, etc of flower stem.– 1c. Rudiment of leaf–stem & leaves.– 1d. Flower bulb.– 2. Section of flower.– 3. Column, and labellum; side view. 3a. Front view of the column.– 4. Lower pagina of labellum.– 4a. Upper pagina of same.– 4b. Transverse section of labellum.– 5. Upper view of appendix.– 5a. Side view of same.– 6. Lateral petal, right side.– 7. Apex of lateral sepal.– (1c and, 2 to 7 magn.)

Hab. Among grass in shady places, on rises. Cheshunt. The Mersey. Near Port Sorell.

Obs. At the time of flowering the leaves are quite dead, or nearly so: they are produced as in many orchids, [?] the flowering-bulb, after the ripening of the seed, sustain the bulb during the production of new flowering-bulb in the Winter, and die away as the new flowering stem rises. An interesting and admirable economy of power! Flowering time, the early part of Summer. Height to 11 inches [280 mm].

Pterostylis obtusa (Br.)

[no date]

Comparison of Distribution

Flora Tasmaniae: Common in northern parts of the Colony: Circular Head.

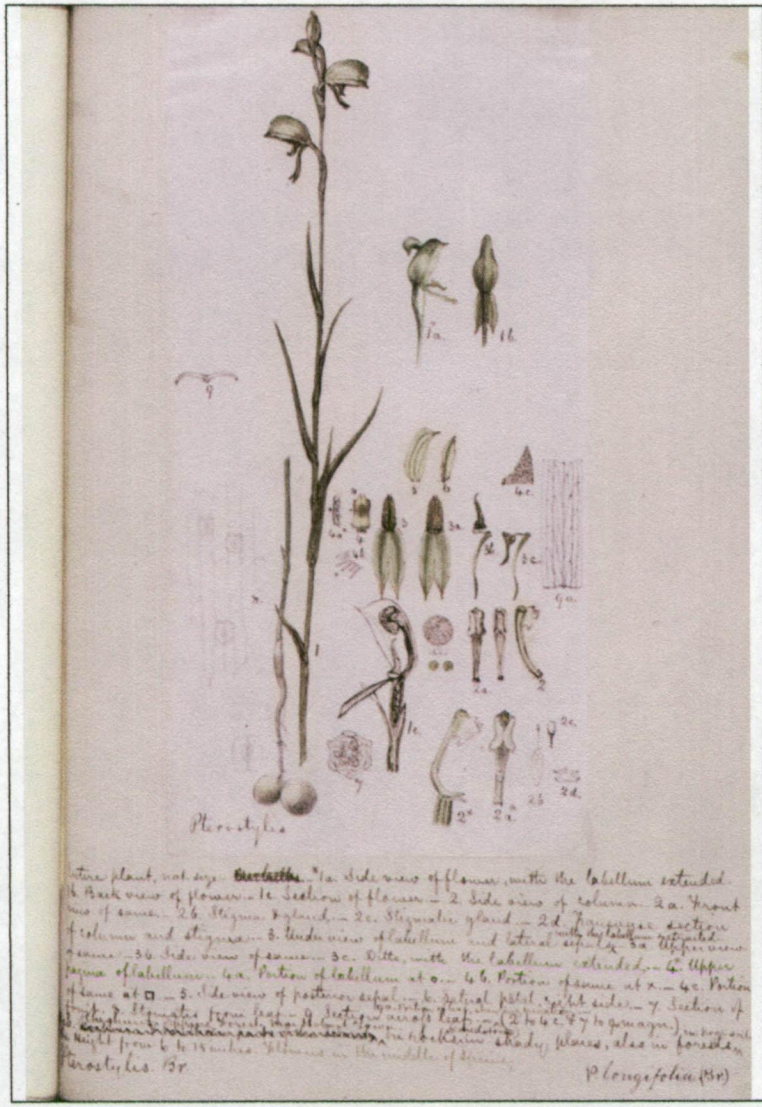
Current: Widespread and common through most of the State, from coastal to highland areas but favouring medium altitudes. p. 223

This illustration was used for *P. obtusa* R.Br. in *Flora Tasmaniae*.

Diplodium: diplo double

Blunt-tongue greenhood

Either *Bunochilus melagrammus* (D.L.Jones) D.L.Jones & M.A.Clem. or *B. williamsonii* (D.L.Jones) D.L.Jones & M.A.Clem.



Identification of Illustration

Bunochilus melagrammus (D.L.Jones) D.L.Jones & M.A.Clem., [identification A. Hansen]
P. longifolia is endemic to NSW and maybe Qld. Tasmanian specimens may be referred to either *B. melagramma or B. williamsonii*.[1]

Where the Name was First Published

Bunochilus melagrammus (D.L.Jones) D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 67 (2002), & *B. williansonii* (D.L.Jones) D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 66 (2002)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. Side view of flower, with the labellum extended. 1b. Back view of flower.– 1c. Section of flower.– 2. Side view of column.– 2a. Front view of same.– 2b. Stigma & gland.– 2c. Stigmatic gland.– 2d. Transverse section of column and stigma.– 3. Under view of labellum and lateral sepals with the labellum retracted.– 3a. Upper view of same.– 3b. Side view of same.– 3c. Ditto, with the labellum extended.– 4. Upper pagina of labellum.– 4a. Portion of labellum at 0.– 4b. Portion of same at x.– 4c. Portion of same at □.– 5. Side view of posterior sepal.– 6. Lateral petal, right side.– 7. Section of fruit. 8. Stomates from leaf.– 9. Section across leaf.– 9a. Portion of leaf, showing venation.– (2 to 4c, & 7 to 9 magn.)

Hab. Cheshunt, Epping Forest, near Hobart Town. On rocks and stone in shady places, also in forests in poor soil. Height from 6 to 15 inches [150 to 380 mm]. Flowers in the middle of Spring.

[no date]

Comparison of Distribution

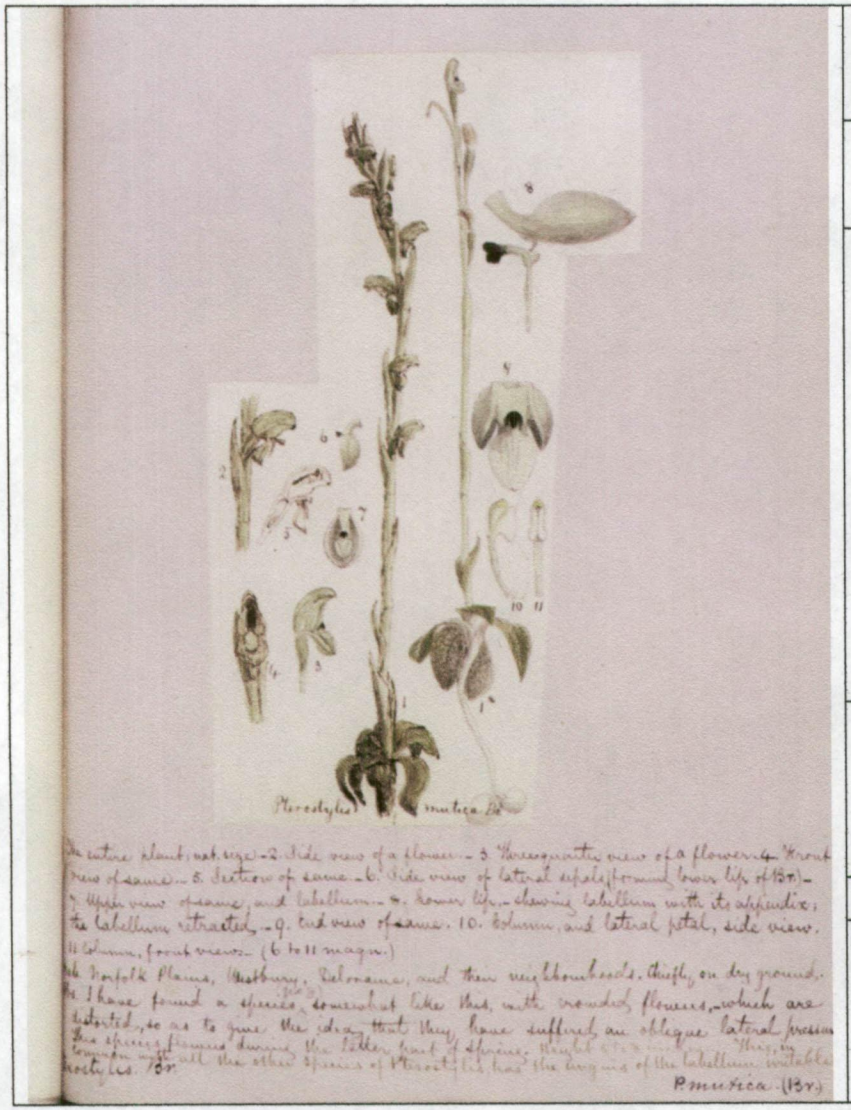
Flora Tasmaniae: Common in dry soil in forest land.

Current: Widespread and common in the eastern part of Tas. And on the north-west coast…locally fairly common in eastern coastal and near coastal lowland, with isolated occurrences in the central north. p. 247

This illustration was used for *P. longifolia* R.Br. in *Flora Tasmaniae*.

Bunochilus: *bounos*, mound, knob: *cheilos*, lip

[1] D. Jones, et al *The Orchids of Tasmania,* Carlton South, Victoria, Melbourne University Press, 1999, p 229.



Identification of Illustration

This illustration can be referred to a member of the *P. mutica* complex, most probably *P. cycnocephala* Fitzg., now *Hymenochilus muticus* (R.Br.) D.L.Jones & M.A.Clem.

Where the Name was First Published

Hymenochilus muticus (R.Br.) D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 74 (2002)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 2. Side view of a flower.– 3. Three quarter view of a flower.– 4. Front view of same.– 5. Section of same.– 6. Side view of lateral sepal, (forming lower lip of Br.) – 7. Upper view of same, and labellum.– 8. Lower lip.– showing labellum with its appendix; the labellum retracted.– 9. End view of same. 10. Column, and lateral petal, side view. 11. Column, front view.– (6 to 11 magn.)

Hab. Norfolk Plains, Westbury , Deloraine and their neighbourhoods. Chiefly on dry ground.

Obs. I have found a species (No 8) somewhat like this, with crowded flowers, which are distorted, so as to give the idea that they may have suffered an oblique lateral pressure. This species flowers during the latter part of Spring. Height 5 to 8 inches [125 to 200 mm]. This, in common with all the other species of *Pterostylis*, has the unguis of the labellum irritable.

Pterostylis mutica (Br.)

[no date]

Comparison of Distribution

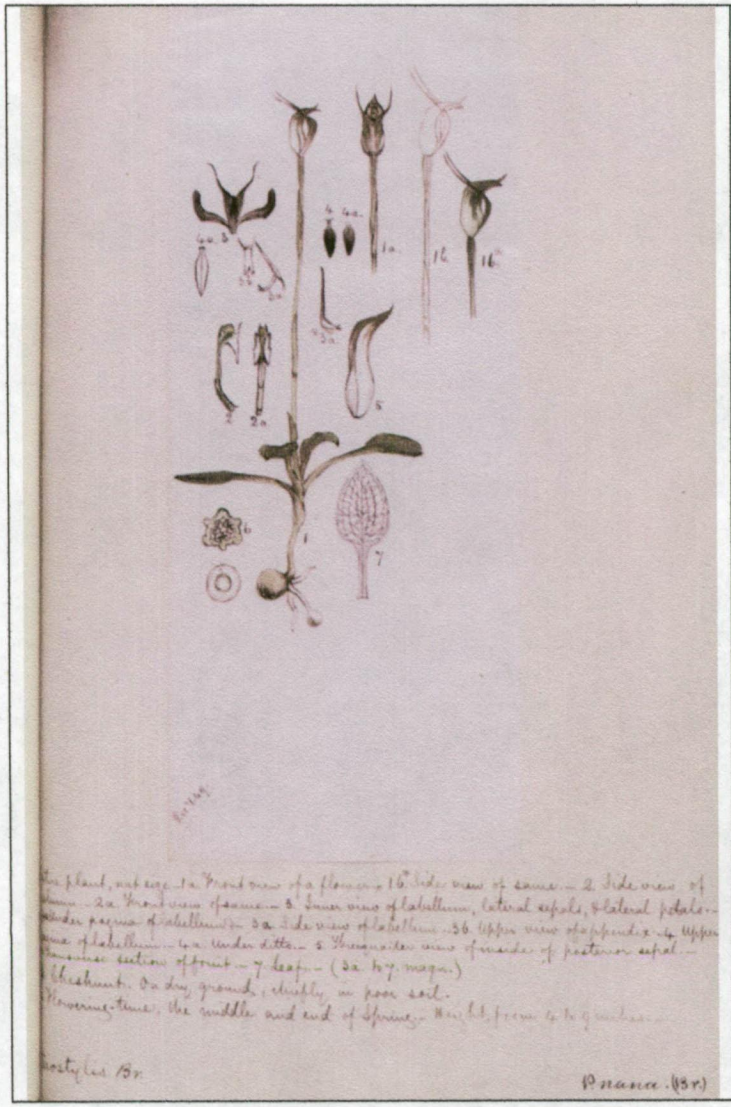
Flora Tasmaniae: Common in rich pastures, as well as light sandy soil.

Current: Tentatively represented in Tasmania by a single collection (1951) from the Mt Knocklofty – Mt Stuart area near Hobart. p. 230

This illustration was used for *P. mutica* R.Br. in *Flora Tasmaniae* along with TMAGAG7690.

Hymenochilus: hymen membrane: *cheilos*, lip

Midget greenhood



Identification of Illustration

Linguella nana (R.Br.) D.L.Jones & M.A.Clem. [identification A. Hansen]

Where the Name was First Published

Linguella nana (R.Br.) D.L.Jones & M.A.Clem., Austral. Orchid Res. 4: 75 (2002)

Transcript of Archer's Notes

1. Entire plant nat. size. 1a. Front view of a flower. 1b*. Side view of same.– 2. Side view of column.– 2a. Front view of same.– 3. Inner view of labellum, lateral sepals, & lateral petals.– 3a*. Under pagina of labellum) – 3a. Side view of labellum.– 3b. Upper view of appendix.– 4. Upper pagina of labellum.– 4a. Under ditto.– 5. Three-quarter view of inside of posterior sepal.– 6. Transverse section of fruit.–7. Leaf.– (3a. to 7 magn.)

Hab. Cheshunt. On dry ground, chiefly in poor soil.

Obs. Flowering time, the middle and end of Spring.– Height, from 4 to 9 inches [100 to 230 mm].

Pterostylis nana (Br.)

[Dec 1. 49]

Comparison of Distribution

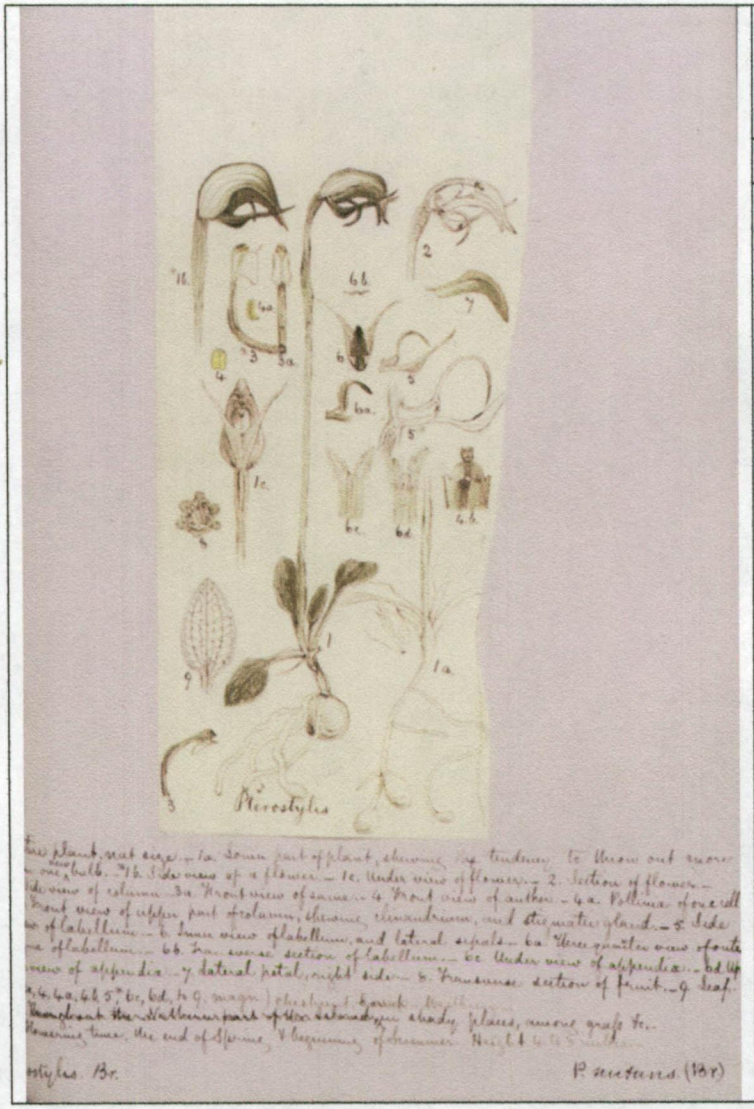
Flora Tasmaniae: Not uncommon in several parts of the Colony: Woolnorth, Circular Head, Bagdad.

Current: Widespread and locally common in coastal and near coastal lowland in eastern and northern Tasmania, the northern Midlands...p. 231

Hooker notes in the amendments to *Flora Tasmaniae* (p 372) that Archer considers the plant names reversed – and from the illustration, I would be inclined to agree. The illustration marked A. *Pterostylis pedunculata* should be *P. nana* and the illustration marked B. *P. nana* should be *P. pedunculata*.

Linguella: lingua tongue

Dwarf greenhood



Identification of Illustration

P. nutans R. Br. [identification A. Hansen]
(This is the only Linnean Society illustration not used in *Flora Tasmaniae*.)

Where the Name was First Published

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. Lower part of plant, showing the tendency to throw out more than one bulb.– *1b. Side view of a flower.– 1c. Under view of flower.– 2. Section of flower.– 3. Side view of column.– 3a. Front view of same.– 4. Front view of anther.– 4a. Pollinia of one cell.– 4b. Front view of upper part of column, showing clinandrium, and stigmatic gland.– 5. Side view of labellum.– 6. Inner view of labellum, and lateral sepals.– 6a. Three-quarter view of outer side of labellum.– 6b. Transverse section of labellum.– 6c. Under view of appendix.– 6d. Upper view of appendix.– 7. Lateral petal, right side.– 8. Transverse section of fruit.– 9. Leaf. (3, 3a, 4, 4a, 4b, 5*, 6c, 6d, to 9, magn.)

[Hab] Cheshunt, Carrick, Westbury. Shady places, among grass etc.

[Obs.] Flowering time, the end of Spring & beginning of Summer. Height 4 to 8 inches [100 to 200 mm].

Pterostylis nutans (Br.)

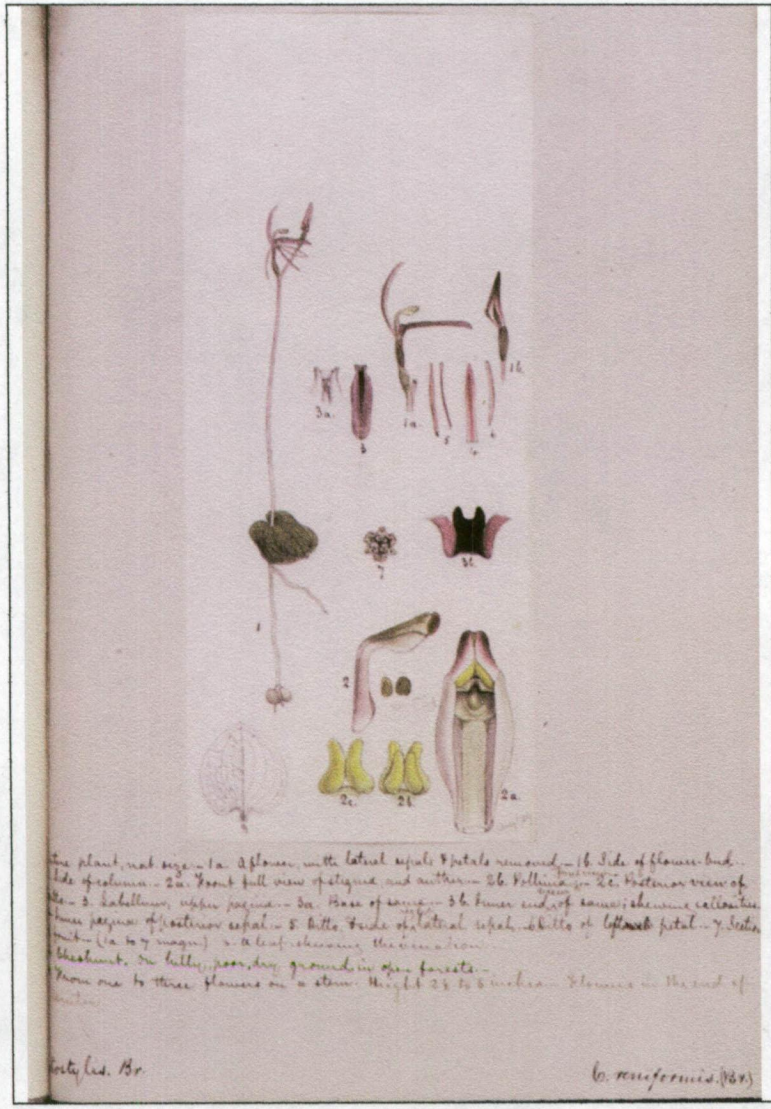
[no date]

Comparison of Distribution

Not used in *Flora Tasmaniae*

Pterostylis: pteron wing; *stylis* style or column

Nodding greenhood



Identification of Illustration

Cyrtostylis reniformis R. Br. [identification A. Hansen]

Where the Name was First Published

Cyrtostylis reniformis R.Br., Prod. 322 (1810)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. A flower, with lateral sepals & petals removed.– 1b. Side of flower– bud. 2. Side of column.– 2a. Front view of stigma, and anther.– 2b. Pollinia front view.– 2c. Posterior view of ditto.– 3. Labellum, upper pagina.– 3a. Base of same.– 3b. Inner end view of same; showing callosities. 4. Inner pagina of posterior sepal.– 5. Ditto, & side of right lateral sepal.– 6. Ditto of left petal.– 7. Section of fruit.– (1a. to 7 magn.) 8. A leaf, showing the venation.

Hab. Cheshunt. On hilly, poor, dry ground, in open forests.

Obs. From one to three flowers on a stem. Height 2 ½ to 5 inches [60 to 125 mm]. Flowers in the end of Winter.

Cyrtostylis reniformis (Br.)

[Aug 29]

Comparison of Distribution

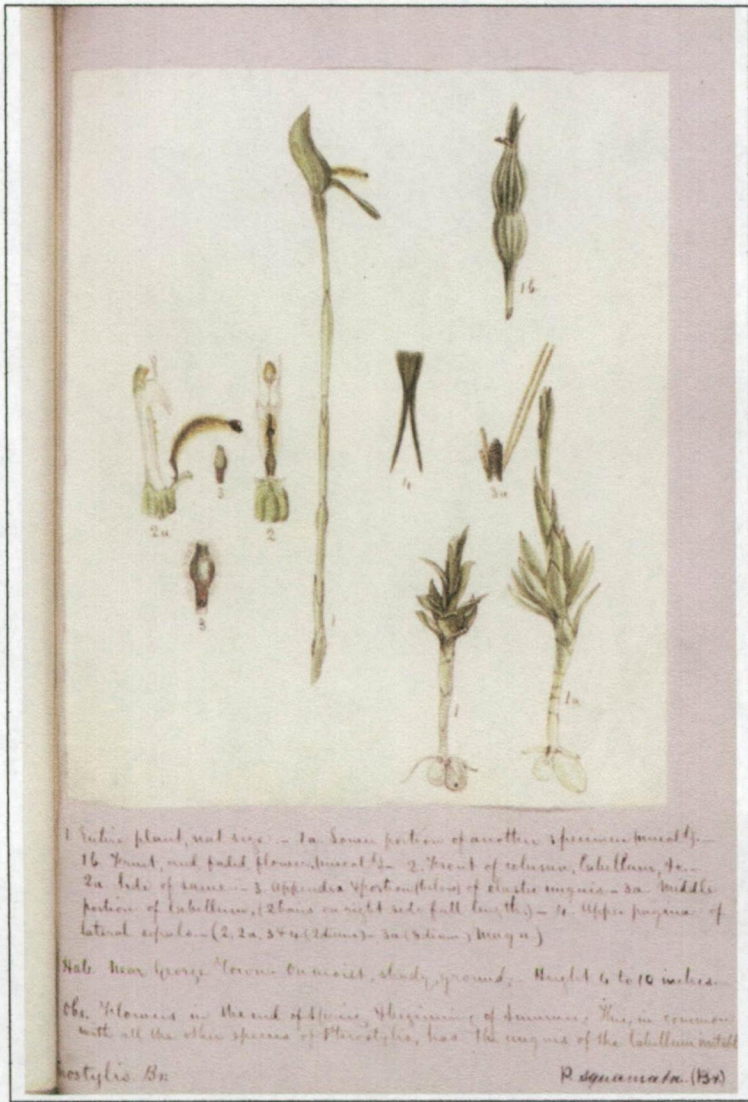
Flora Tasmaniae: Common in damp shaded woods and banks.

Current: Widely distributed and common in lowland areas up to 400 m in the eastern and northern parts of the State p. 128

This illustration was used for *Cyrtostylis reniformis* R. Br in *Flora Tasmaniae*.

Cyrtostylis: cyrtos curved; *stylos* style or column

Small gnat-orchid



Identification of Illustration

Oligochaetochilus squamatus (R.Br.) D.L.Szlach., Polish Bot.J. 46(1): 25 (2001)
[identification A. Hansen]
It is not possible to key this illustration out further than *Oligochaetochiluo*

Where the Name was First Published

Oligochaetochilus squamatus (R.Br.) D.L.Szlach., Polish Bot.J. 46(1): 25 (2001)

Transcript of Archer's Notes

1. Entire plant nat. size.– 1a. Lower portion of another specimen (uncolored) 1b. Fruit, and faded flower, (uncoloured) – 2. Front of column, labellum, etc. 2a. Side of same.– 3. Appendix & portion (below) of elastic unguis.– 3a. Middle portion of labellum, (2 hairs on right side full length.) – 4. Upper pagina of lateral sepals.– (2, 2a, 3 & 4 (2 diam.) – 3a (8 diam.) magn.)

Hab. Near George Town. On moist, shady ground. Height 4 to 10 inches [100 to 255 mm].

Obs. Flowers in the end of Spring & beginning of Summer. This, in common with all the other species of *Pterostylis*, has the unguis of the labellum irritable.

Pterostylis squamata (Br.)

[no date]

Comparison of Distribution

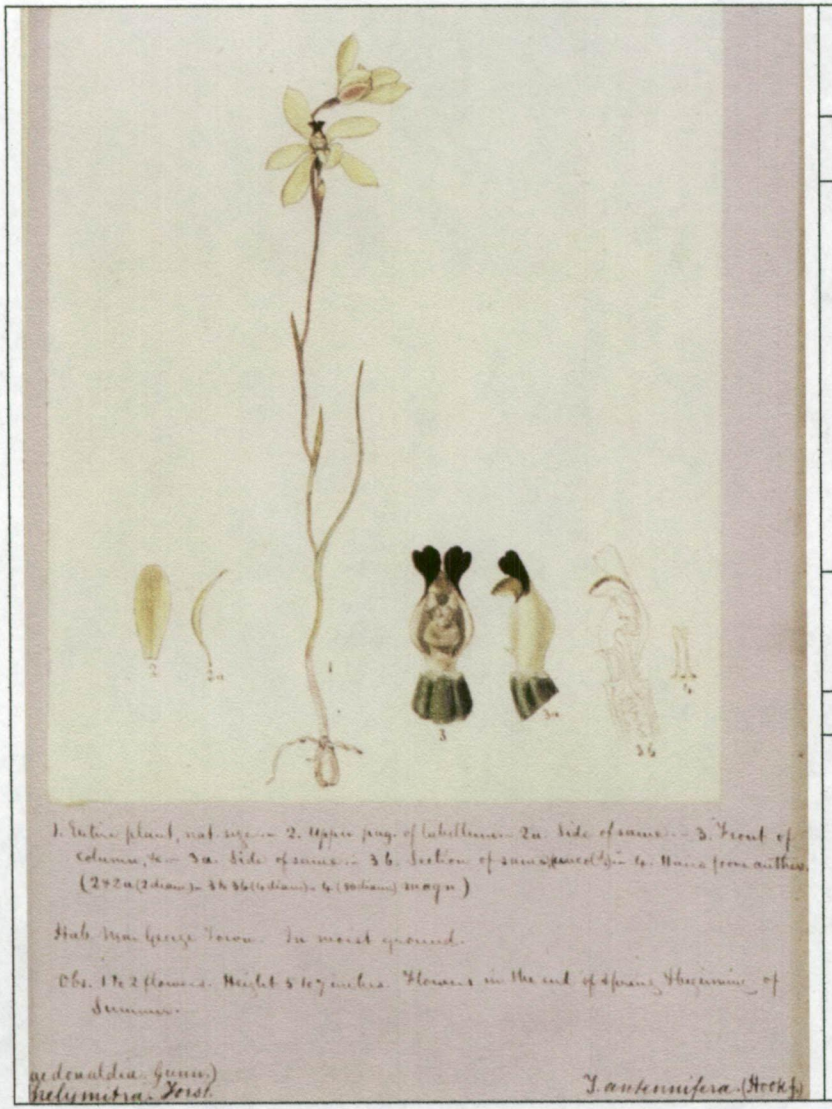
Flora Tasmaniae: Common in sandy soil near Hobarton, Circular Head, Georgetown, etc.

Current: Uncommon and localised in lowland areas in the eastern part of the State. p. 241

This illustration was used for *P. squamata* R.Br. in *Flora Tasmaniae*.

Oligochaetochilus: oligo few: *chaeto* bristle: *cheilos*, lip

Ruddy greenhood



Identification of Illustration

Thelymitra antennifera (Lindl.) Hook.f [identification A. Hansen]

Where the Name was First Published

Transcript of Archer's Notes

1. Entire plant, nat. size. – 2. Upper pag. of labellum. – 2a. Side of same. – 3. Front of column, etc. – 3a. Side of same. – 3b. Section of same, (uncol'd.).– 4. Hairs from anther. (2 & 2a (2 diam.) – 3 to 3b. (4 diam.) – 4. (50 diam.) magn.)

Hab. Near George Town. In moist ground.

Obs. 1 to 2 flowers. Height 5 to 7 inches [125 to 175 mm]. Flowers in the end of Spring & beginning of Summer.

Thelymitra antennifera (Hook.f.)

[no date]

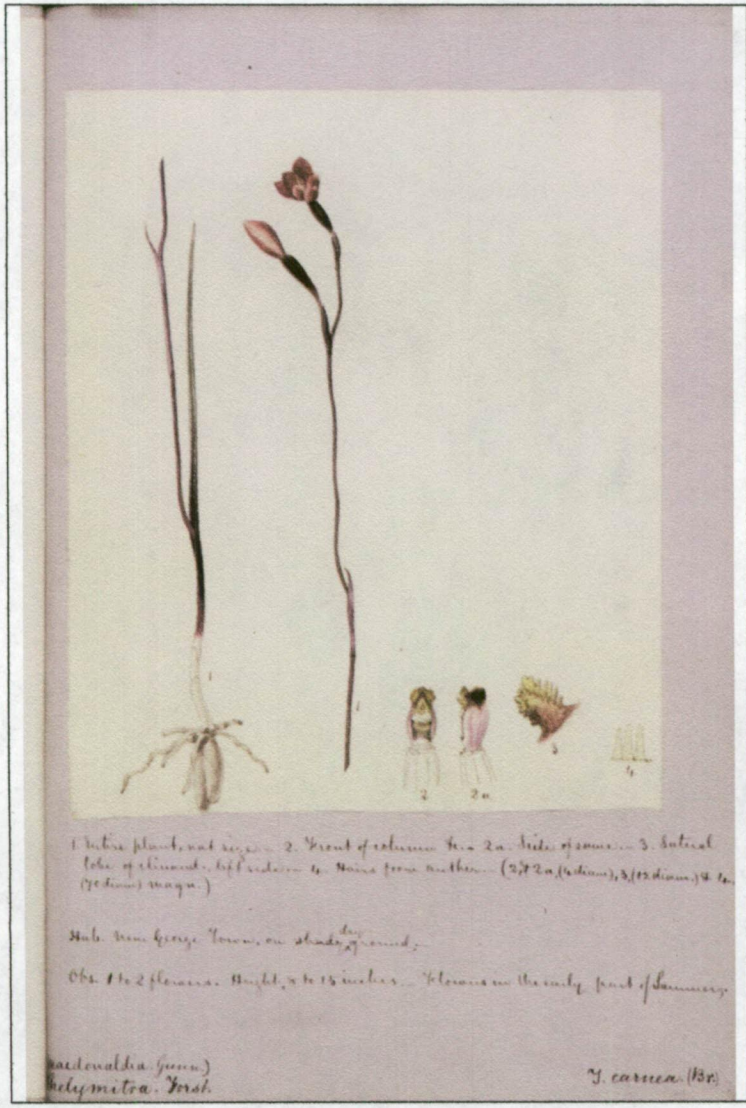
Comparison of Distribution

Flora Tasmaniae:

Illustration was used for *T. antennifera* H.f. in *Flora Tasmaniae.*

Thelymitra: thelys female; *mitra* cap

Rabbit Ears



Identification of Illustration

Thelymitra ruba Fitzg. [identification A. Hansen]

Where the Name was First Published

Thelymitra carnea R.Br., Prodr. 314 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size. 2. Front of column & 2a. Side of same.– 3. Lateral lobe of clinnand, left side. 4. Hairs from anther.– (2, & 2a, (4 diam.), 3, (12 diam.) & 4 (70 diam.) magn.)

Hab. Near George Town, on shady dry ground.

Obs. 1 to 2 flowers. Height, 8 to 15 inches [200 to 380 mm]. – Flowers in the early part of Summer.

Thelymitra carnea Br.

[not dated]

Comparison of Distribution

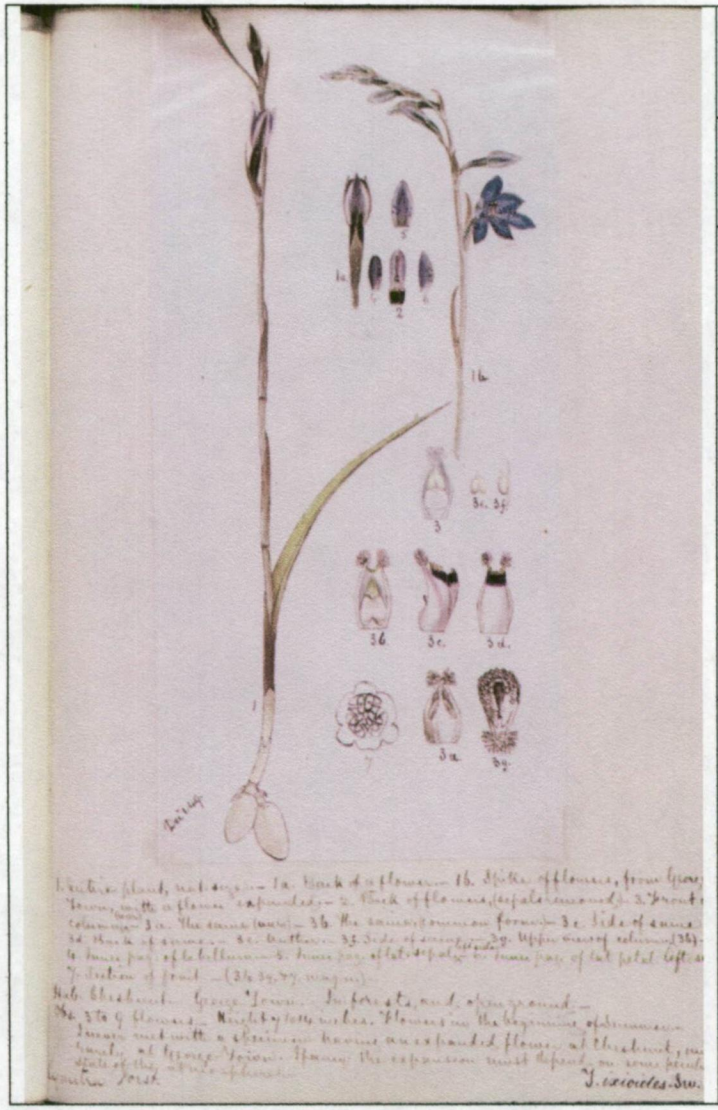
Flora Tasmaniae: Near Hobarton, Georgetown and Cheshunt.

Current: Uncommon and localised in lowland areas up to 300 m in the eastern half of Tasmania, along the north coast...p. 267

Illustration was used for *T. carnea* R.Br. in *Flora Tasmaniae.*

Thelymitra: thelys female; *mitra* cap

Tiny sun-orchid



Identification of Illustration

Thelymitra ixioides Swartz [identification A. Hansen]

Where the Name was First Published

Thelymitra ixioides Swartz, Ksvenska Vat. Akad. Handl. 21:252 (1800)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Back of a flower.– 1b. Spike of flowers, from George Town, with a flower expanded.– 2. Back of flowers, (sepals removed.) 3. Front of column, (var.)– 3a. The same (var.) – 3b. The same, (common form.) – 3c. Side of same. 3d. Back of same.– 3e. Anther.– 3f. Side of same.– 3g. Upper view of column, (3b) – 4. Inner pag of labellum.– 5. Inner pag. of lat. sepal, left side.– 6. Inner pag. of lat. petal left side. 7. Section of fruit.– (3 to 3g, & 7, magn.)

Hab. Cheshunt.– George Town.– In forests and open ground.–

Obs. 3 to 9 flowers. Height 7 to 14 inches [175 to 355]. Flowers in the beginning of Summer.–
I never met with a specimen having an expanded flower at Cheshunt, and rarely at George Town. I fancy the expansion must depend on some peculiar state of the atmosphere.–

Thelymitra ixioides (Sm.)

(Dec. 1.49)

Comparison of Distribution

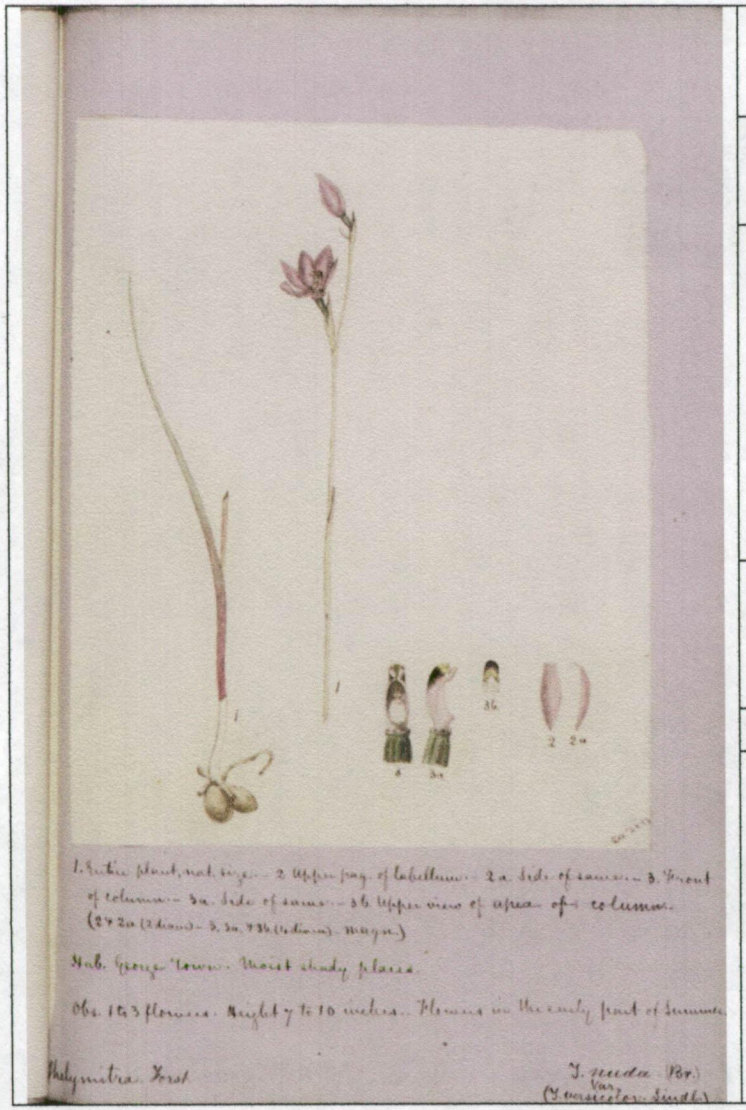
Flora Tasmaniae: Abundant throughout the Colony.

Current: Distribution poorly known. p. 276

This illustration may have been used in *Flora Tasmaniae*

Thelymitra: thelys female; *mitra* cap

Spotted sun-orchid



Identification of Illustration

Thelymitra nuda R.Br. [identification A. Hansen]

Where the Name was First Published

Thelymitra nuda R.Br., Prodr. 314 (1810)

Transcript of Archer's Notes

1. Entire plant, nat size.– 2. Upper pag. of labellum.– 2a. Side of same.– Front of column.– 3a. Side of same.– 3b. Upper view of apex of column.– (2 & 2a. (2 diam.) – 3, 3a, & 3b, (4 diam). magn.)

Hab. George Town. Moist shady places.

Obs. 1 to 3 flowers. Height 7 to 10 inches [175 to 255 mm]. Flowers in the early part of Summer.

Thelymitra nuda (Br.) (*T. versicolor*.Lindl)

[Dec 28:53]

Comparison of Distribution

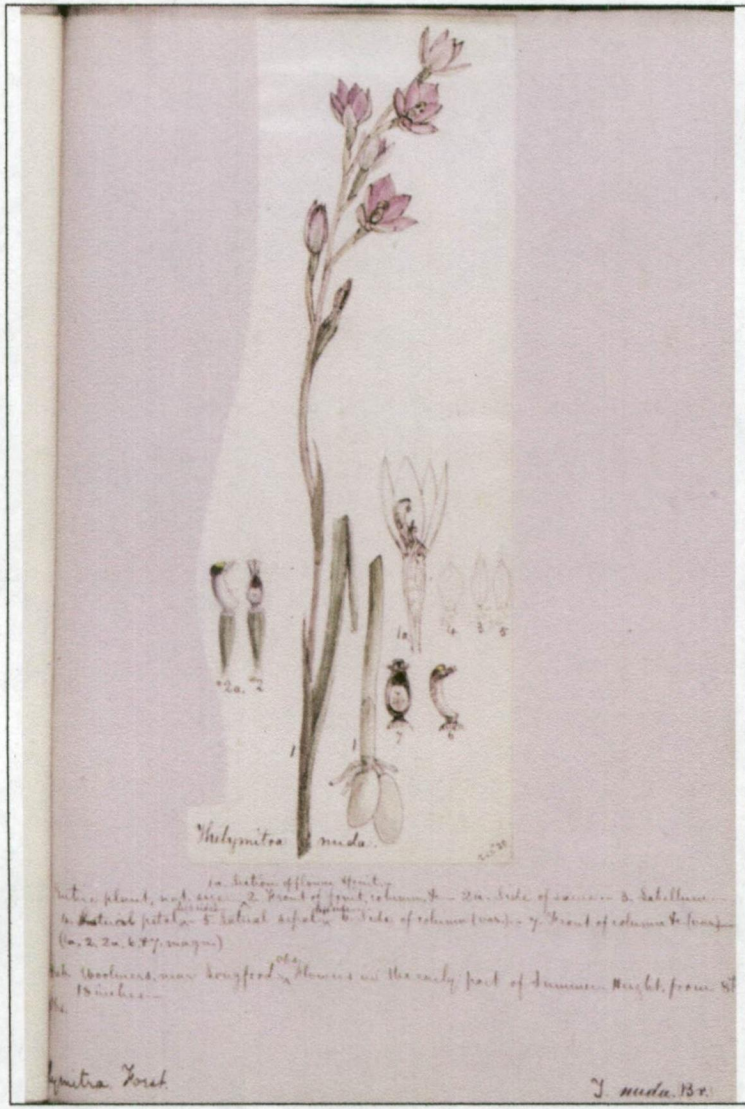
Flora Tasmaniae: Abundant throughout the colony.

Current: Widespread and quite common in lowland areas, especially coastal and near-coastal. p. 281

Illustration was used for *T. nuda* R.Br. in *Flora Tasmaniae.*

Thelymitra: thelys female; *mitra* cap

Plain sun-orchid



Identification of Illustration

Thelymitra nuda R.Br. [identification A. Hansen]

Where the Name was First Published

Thelymitra nuda R.Br., Prodr. 314 (1810)

Transcript of Archer's Notes

1. Entire plant, nat. size.– 1a. Section of flower & fruit.– 2. Front of fruit, column, etc.– 2a. Side of same.– 3. Labellum.– 4. Lateral petal left side.– 5. Lateral sepal left side.– 6. Side of column (var.).– 7. Front of column etc. (var).– (1a, 2, 2a, 6, & 7, magn.)

Hab. Woolmers, near Longford

Obs. Flowers in the early part of Summer. Height, from 8 to 18 inches [200 to 460 mm].

Thelymitra nuda Br.

[Dec 20]

Comparison of Distribution

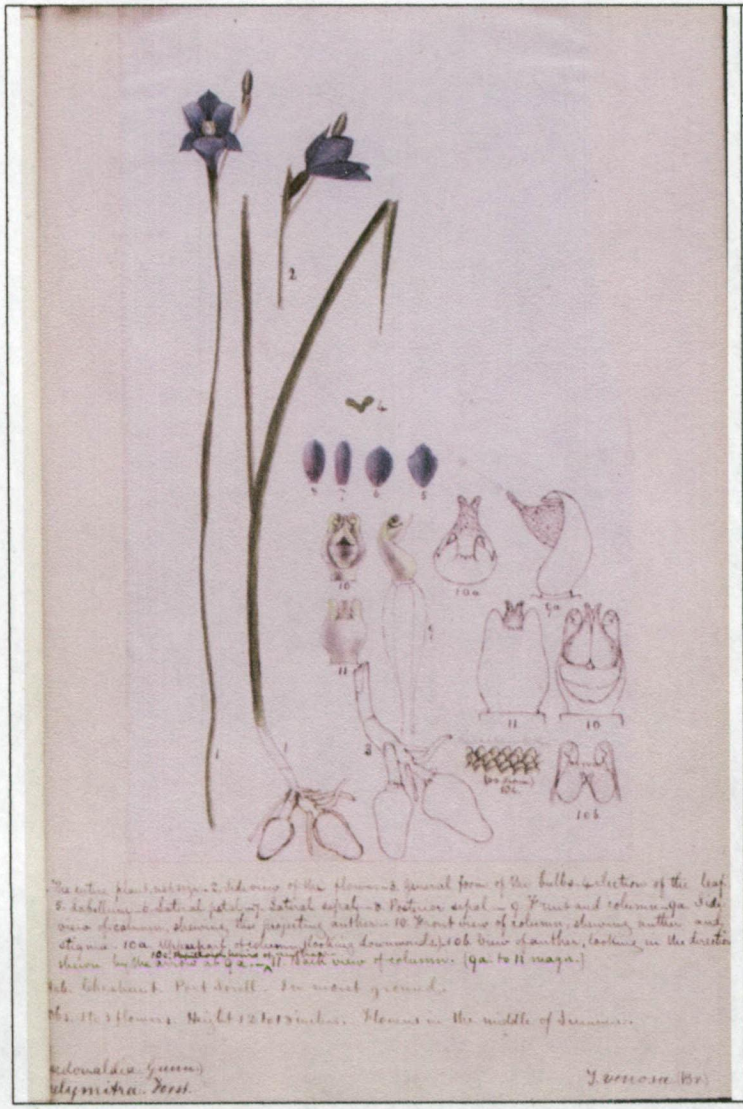
Flora Tasmaniae: Abundant throughout the colony.

Current: Widespread and quite common in lowland areas, especially coastal and near-coastal. p. 281

Illustration was used for *T. nuda* R.Br. in *Flora Tasmaniae.*

Thelymitra: thelys female; *mitra* cap

Plain sun-orchid



Identification of Illustration

T. cyanea (Lindl.) Benth. [identification A. Hansen]

Where the Name was First Published

Thelymitra cyanea (Lindley) Benth., Fl. Austral. 6:323 (1873)

Transcript of Archer's Notes

1. The entire plant, nat. size.– 2. Side view of the flower.– 3. General form of the bulbs.– 4. Section of the leaf.– 5. Labellum.– 6. Lateral petal.– 7. Lateral sepal.– 8. Posterior sepal.– 9. Fruit and column.– 9a. Side view of column, showing the projecting anther.– 10. Front view of column, showing anther and stigma. 10a. Upper part of column, (looking downwards.)– 10b. View of anther, looking in the direction shown by the arrow of 9a.– 10c. Papilloid hairs of anther.– 11. Back view of column. (9a: to 11 magn.)

Hab. Cheshunt. Port Sorell. In moist ground.

Obs. 1 to 3 flowers. Height 12 to 18 inches [305 to 460 mm]. Flowers in the middle of Summer.

Thelymitra venosa (Br.) *Macdonaldia* (Gunn.)

[not dated]

Comparison of Distribution

Flora Tasmaniae: Circular Head, Rocky Cape, Cheshunt and Port Sorrell.

Current: Widespread and common from lowland to 1000 m ... but does not occur in drier areas. p. 269

Illustration was used for *T. venosa* R.Br. in *Flora Tasmaniae.*

Thelymitra: thelys female; *mitra* cap

Veined sun-orchid

APPENDIX 3: *Flora Tasmaniae* Illustrations*

Thelymitra venosa R.Br., *T.carnea* R.Br.

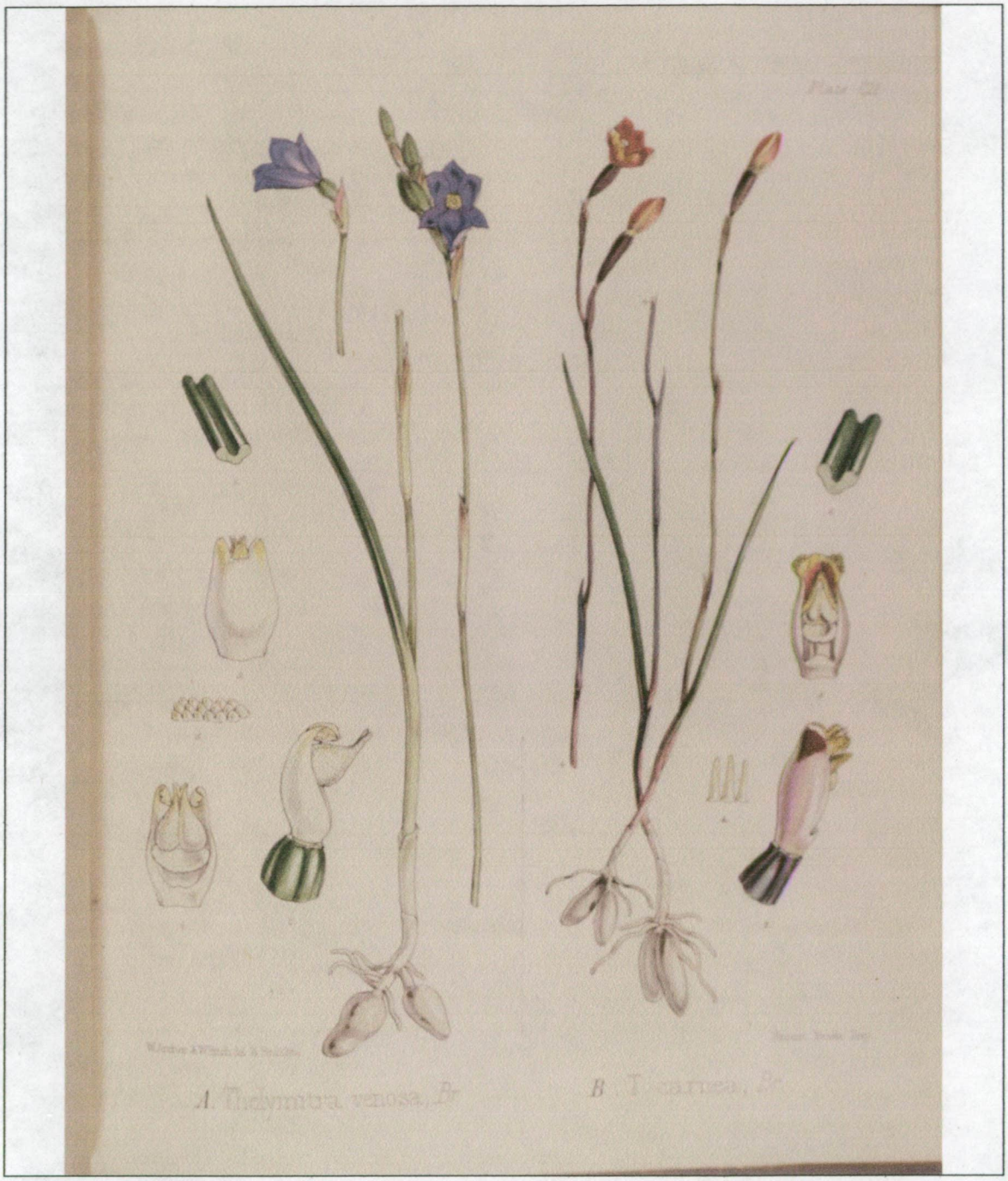


Plate CII – A *Thelymitra venosa* Br. – Fig. 1, section of leaf; 2, side, 3, back 4, front views of column; 4 [5], papillae of anther: – all magnified.

Plate CII – B *T. carnea* Br. – Fig. 1, section of leaf; 2, side, and 3, front view of column; 4, basis of anther: – all magnified.

Thelymitra nuda R.Br., *T. ixioides* Sm.

Plate CIII – A *Thelymitra nuda* Br. – Fig. 1, lateral, and 2, front view of column; 3, anther; 4, hair of column: – all magnified.

Plate CIII – B *T. ixioides* Sm – Fig. 1, lateral, and 2, front view of column: – both magnified.

Plate CIV – A *Diuris sulphurea* Br. – Fig. 1, dorsal sepal; 2, petal; 3, lateral, and 4 front view of labellum; 5, front, and 6, back view of column: – all magnified.

Plate CIV – B *D. maculata* Sm – Fig. 1 and 2, front and side view of lip; 3 and 4, front and back view of column: – all magnified.

Diuris pedunculata R.Br., *D. corymbosa* Lindl.

Plate CV – A *Diuris pedunculata* Br. – Fig. 1, dorsal sepal; 2, petal; 3, labellum; 4, column: – all magnified.

Plate CV – B *D. corymbosa* Lindl. – Fig. 1, labellum: – magnified.

Plate CVI – A *Calochilus campestris* Br. – Fig. 1, labellum; 2, side, and 3, front view of column; 4, pollen: – all magnified.

Plate CVI – B *Lyperanthus nigricans* Br. – Fig. 1, flower: – magnified.

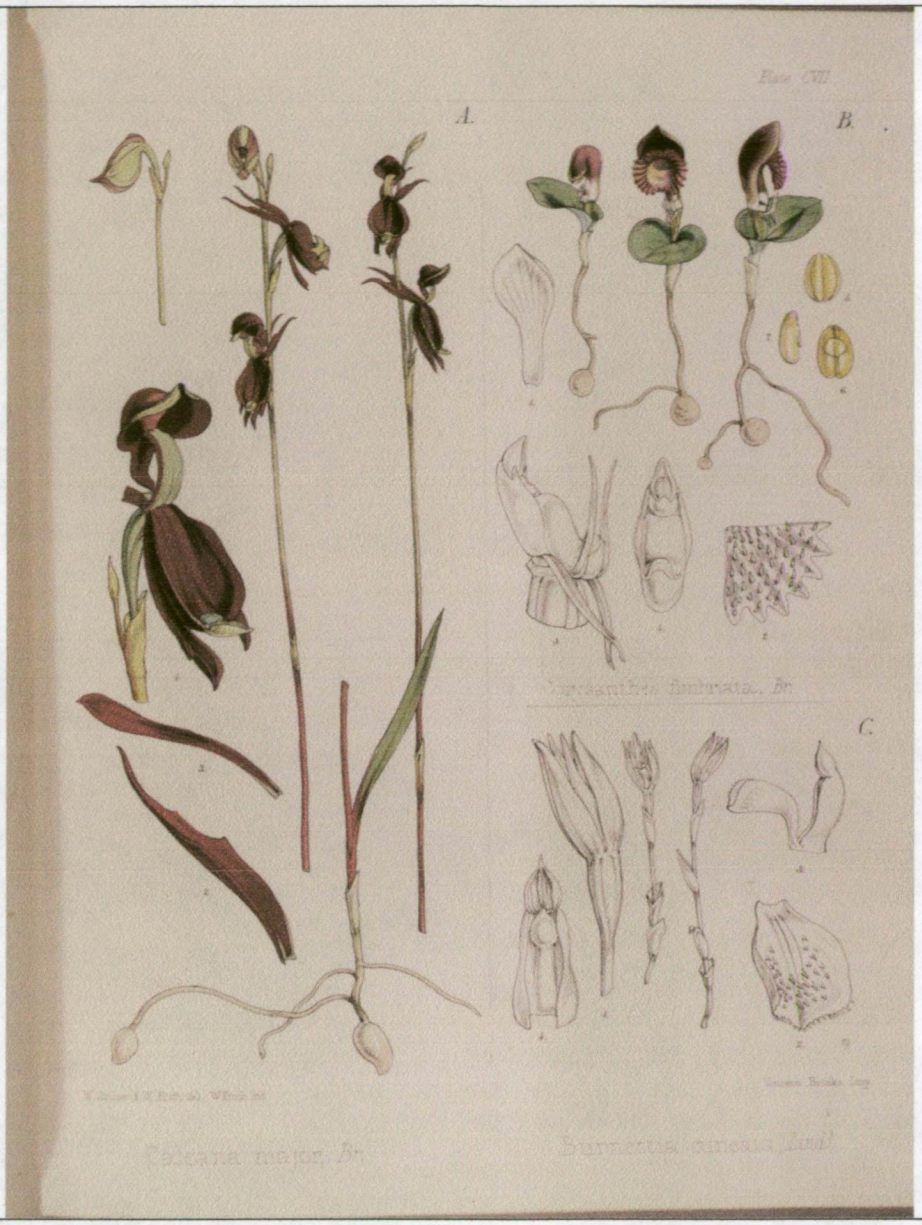


Plate CVII – A *Caleana major* Br. – Fig. 1, flower; 2, lateral, and 3, dorsal sepal: – all magnified.

Plate CVII – B *Coryanthes fimbriata* Br. – Fig.1, dorsal sepal; 2, column and petals; 3, front view of column; 4, portion of labellum; 5, front, 6, back, and 7, side view of pollen: – all magnified.

Plate CVII – C *Burnettia cuneata* Lindl. – Fig. 1, flower; 2, labellum; 3, column and labellum; 4, front view of column: – all magnified.

Plate CVIII – A *Cryptostylis longifolia* Br. – Fig.1, labellum; 2, side, and 3, front view of column; 4, front view of anther and pollen: – all magnified.

Plate CVIII – B *Chiloglottis gunnii* Lindl. – Fig. 1, labellum; 2, column; 3, pollen: – all magnified.

Plate CIX – A *Prasophyllum flavum* Br. – Fig. 1, side, and 2, front view of flower; 3, labellum; 4, side, and 5, front view of column: – all magnified.

Plate CIX – B *P. truncatum* Lindl. – Fig. 1, side, and 2, front view of flower; 3 labellum; 4, side, and 5, front view of column: – all magnified.

Plate CX – A *Prasophyllum breviabre* Hook f. – Fig. 1, flower; 2, labellum; 3, side view of labellum and column; 4, front view of column; 5, pollen: – all magnified.

Plate CX – B *P. lutescens* Lindl. – Fig. 1, flower; 2, labellum; 3, back, and 4, front of column; 5, pollen: – all magnified.

Prasophyllum patens R.Br.

Plate CXI – *Prasophyllum patens* Br. – Fig. 1, side, and 2, front view of flower; 3, side, and 4, front view of labellum; 5, back, and 6, side, and 7, front view of column; 8, pollen: – all magnified.

Prasophyllum alpinum R.Br., *P. fuscum* R.Br.

Plate CXII – A *Prasophyllum alpinum* Br. – Fig. 1, side, and 2, front view of flower; 3, back, and 4, front and 5, side views of column: – all magnified.

Plate CXII – B *P. fuscum* Br. – Fig. 1, side, and 2, front views of flower; 3, side view of column and labellum; 4, front view of column; 5, pollen: – all magnified.

P. despectans Hook.f., *Prasophyllum archeri* Hook.f., *P. nudum* Hook.f.

Plate CXIII – A *P. despectans* Hook f. – Fig. 1, flower; 2, side view of column and labellum; 3, labellum; 4, front view of column: – all magnified.

Plate CXIII – B *Prasophyllum archeri* Hook f. – Fig. 1, front, and 2, side views of flower; 3, column and labellum; 4, front of column; 5, front, and 6, side views of pollen: – all magnified.

Plate CXIII – C *P. nudum* Hook f. – Fig. 1, side, and 2, front views of flower; 3, labellum: – all magnified.

Plate CXIV – A *Pterostylis pedunculata* Br. – Fig. 1, labellum; 2, side, and 3, front view of column: – all magnified.

Plate CXIV – B *P. nana* Br. – Fig. 1, labellum; 2, side, and 3, front view of column: – all magnified.

Plate CXV – A *P. cucullata* Br. – Fig. 1, side view of column and labellum; 2, front view of labellum; 3, ditto of column: – all magnified.

Plate CXV – B *Pterostylis dubia* Br. – Fig. 1, flower; 2, petal; 3, lateral view of column and labellum; 4, front view of column: – all magnified.

Plate CXV – C *P. obtusa* Br. – Fig. 1, column and labellum; 2, labellum; 3, front view of column: – all magnified.

P. squamata R.Br., *Pterostylis rufa* R.Br., *P. aphylla* Lindl.

Plate CXVI – A *P. squamata* Br. – Fig. 1, flower; side view of column and labellum; 3, front view of labellum; 4, hairs of the same; 5, front view of column: – all but fig. 1 magnified.

Plate CXVI – B *Pterostylis rufa* Br. – Fig. 1, front, and 2, side view of labellum; 3, column: – all magnified.

Plate CXVI – C *P. aphylla* Lindl. – Fig. 1, flower; 2, petal; 3, labellum; 4, lower lip and labellum; 5, column: – all magnified.

Plate CXVII – A *Pterostylis mutica* Br. – Fig. 1, side, and 2, front view of lower lip and labellum; 3, side, and 4, front view of column: – all magnified.

Plate CXVII – B *P. longifolia* Br. – Fig. 1, front, and 2, side view of labellum; 3, front, and 4, side view of column: – all magnified.

Plate CXVIII – A *Microtis pulchella* Br. – Fig. 1, front, and 2, side view of flower; 3, labellum; 4, front, and 5, side views of column: – all magnified.

Plate CXVIII – B *M. arenaria* Lindl. – Fig. 1, front, and 2, side view of flower; 3, labellum; 4, front, and 5, side view of column: – all magnified.

Acianthus exertus R.Br., *A. caudatus* R.Br., *Cyrtostylis reniformis* R.Br.

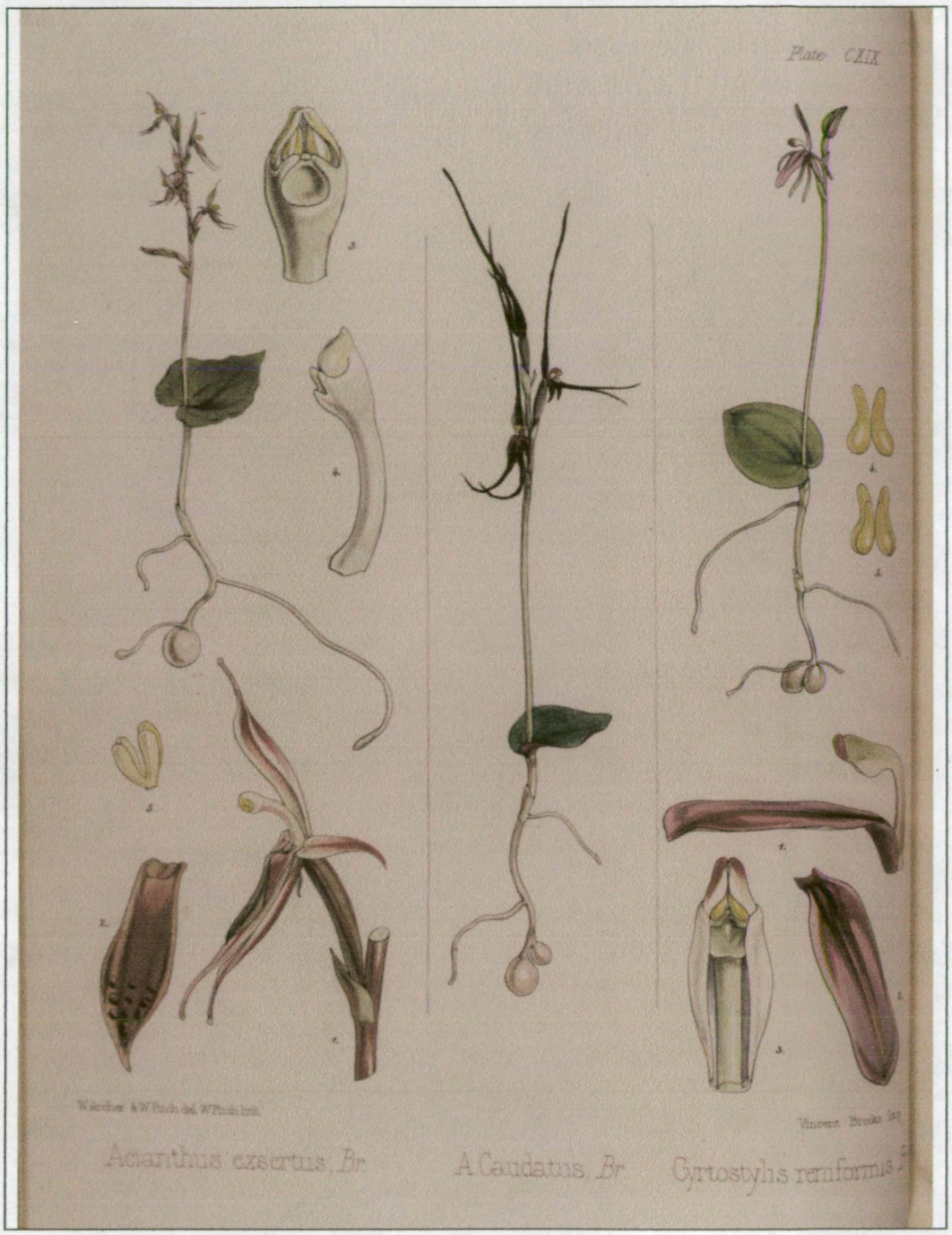


Plate CXIX – A *Acianthus exsertus* Br. – Fig. 1, flower; 2, labellum; 3, front, and 4, side view of column; 5, pollen: – all magnified.

Plate CXIX – B *A. caudatus* Br. – Fig. 1, Plant of the natural size.

Plate CXIX – C *Cyrtostylis reniformis* Br. – Fig. 1, column and labellum; 2, labellum; 3, column; 4 and 5, pollen: – all magnified.

Plate CXX – A *Eriochilus autumnalis* Br. – Fig. 1, flower; 2, labellum; 3, gland; 4, front, and 5, side view of column; 6, pollen: – all magnified.

Plate CXX – B *Glossodia major* Br. – Fig. 1 and 2, labellum; 3 and 4, column: – all magnified.

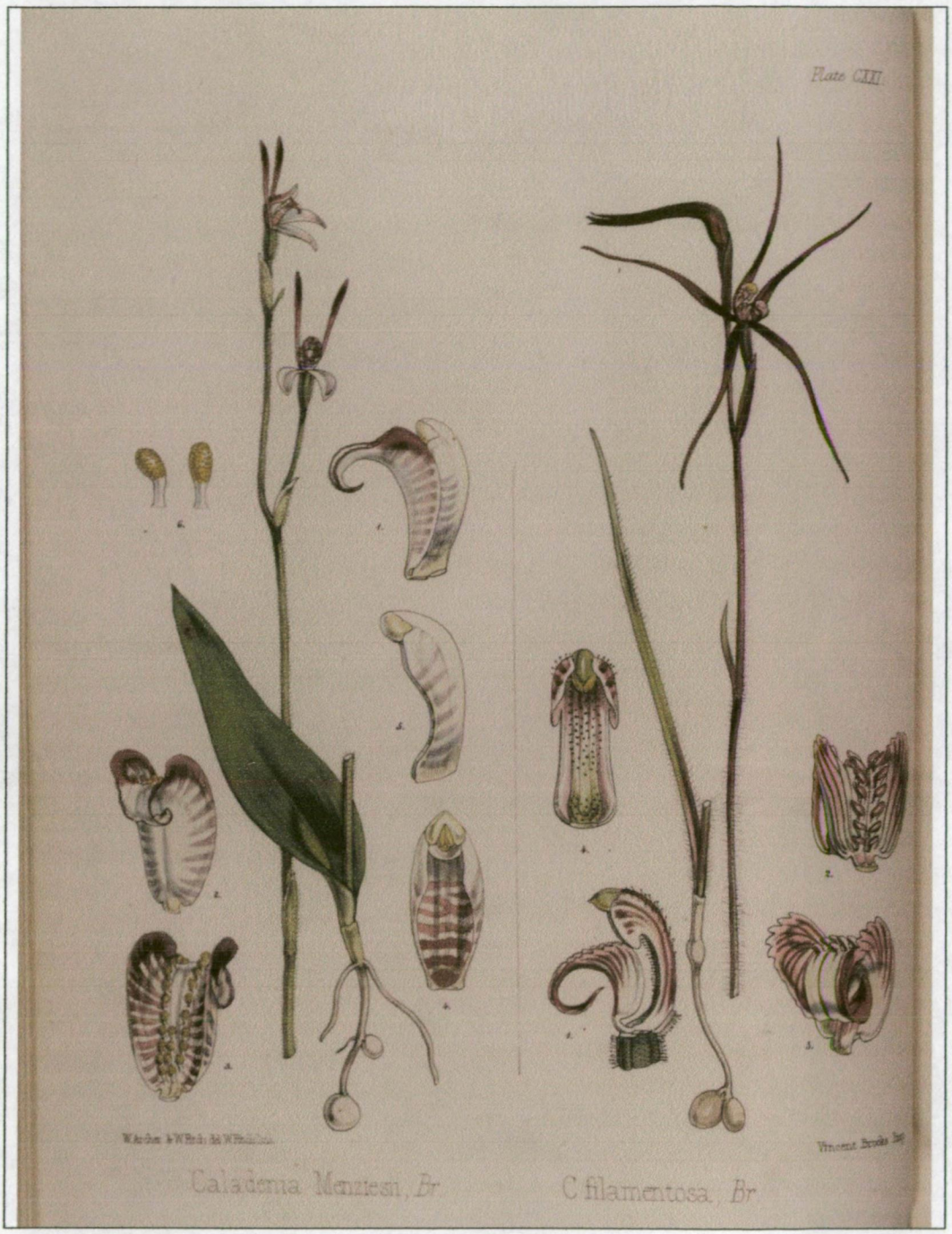


Plate CXXI – A *Caladenia menziesii* Br. – Fig. 1, side, and 2, back, and 3, front views of labellum; 4, front, and 5, side views of column; 6, glands of ditto: – all magnified.

Plate CXXI – B *C. filamentosa* Br. – Fig. 1, column and labellum; 2 and 3, labellum; 4, column: – all magnified.

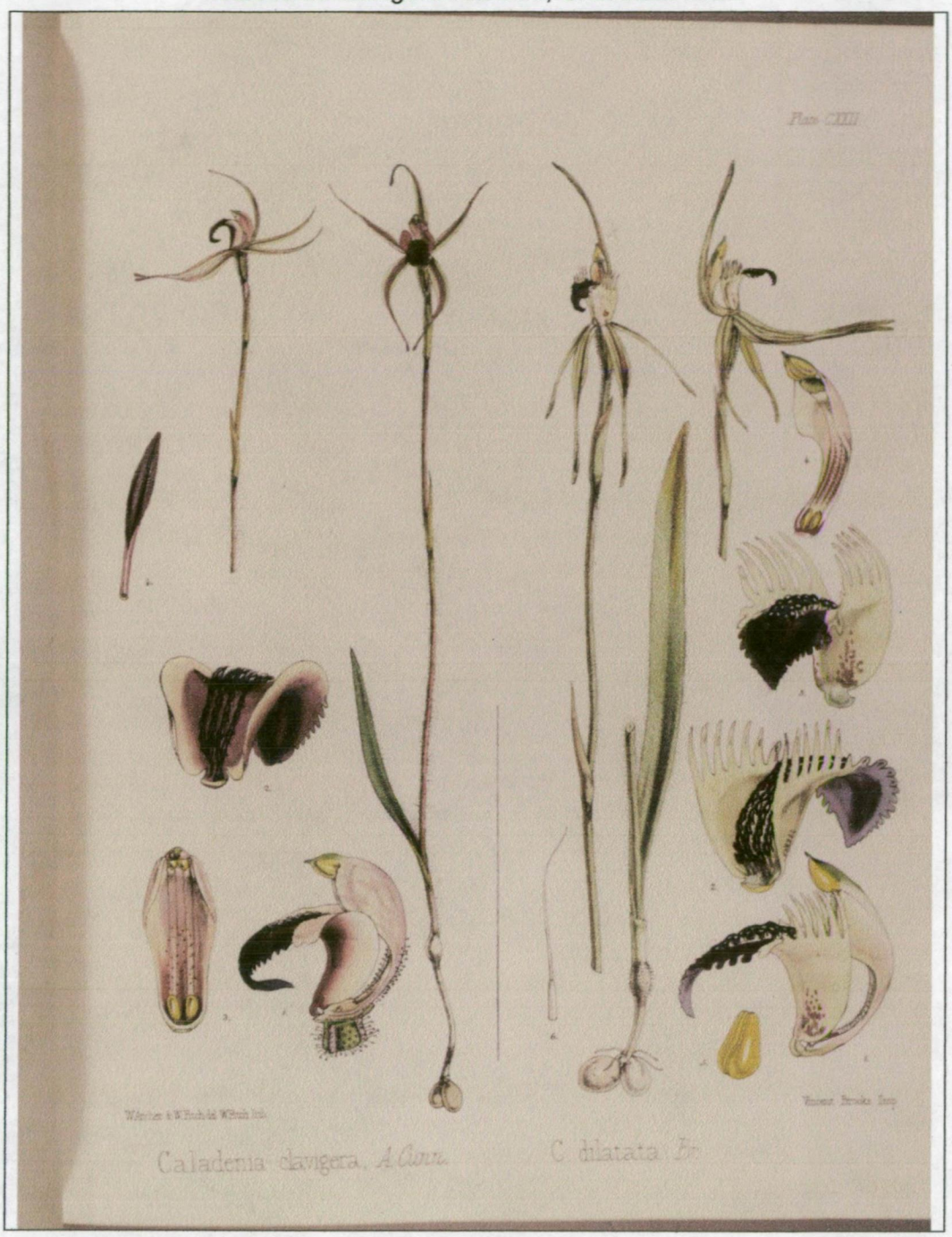


Plate CXXII – A *Caladenia clavigera* A. Cunn. – Fig. 1, column and petal; 2, labellum; 3, column; 4, apex of sepal: – all magnified.

Plate CXXII – B *C. dilatata* Br. – Fig. 1, column and labellum; 2 and 3, labellum; 4, column; 5, pollen; 6, hair of leaf: – all magnified.

Plate CXXIII – A *Caladenia patersoni* Br. – Fig. 1, column and labellum; 2, labellum; 3, column; 4, pollen: – all magnified.

Plate CXXIII – B *C. barbata* Lindl. – Fig. 1, column and labellum; 2, labellum; 3, column; 4, glands of ditto: – all magnified.

Plate CXXIV – A *Caladenia carnea* Br. – Fig. 1, column and labellum; 2 and 3, views of labellum; 4, column; 5, glands of labellum; 6, pollen: – all magnified.

Plate CXXIV – B *C. congesta* Br. – Fig. 1, column and labellum; 2 and 3, labellum; 4, column: – all magnified.

Plate CXXV – A *Caladenia alata* Br. – Fig. 1 and 2, labellum; 3, and 4, column: – all magnified.

Plate CXXV – B *C. angustata* Lindl. – Fig. 1, column and labellum; 2, labellum; 3, glands of ditto; 4, column; 5, pollen: – all magnified.

Gastrodia sesamoides R.Br.

Plate CXXVI – *Gastrodia sesamoides* Br. – Fig. 1 and 2, ovary, column, and labellum; 3, front view of column; 4 and 5, pollen; 6, grain of ditto; 7, seed; 8, nucleus of ditto in water: – all magnified.

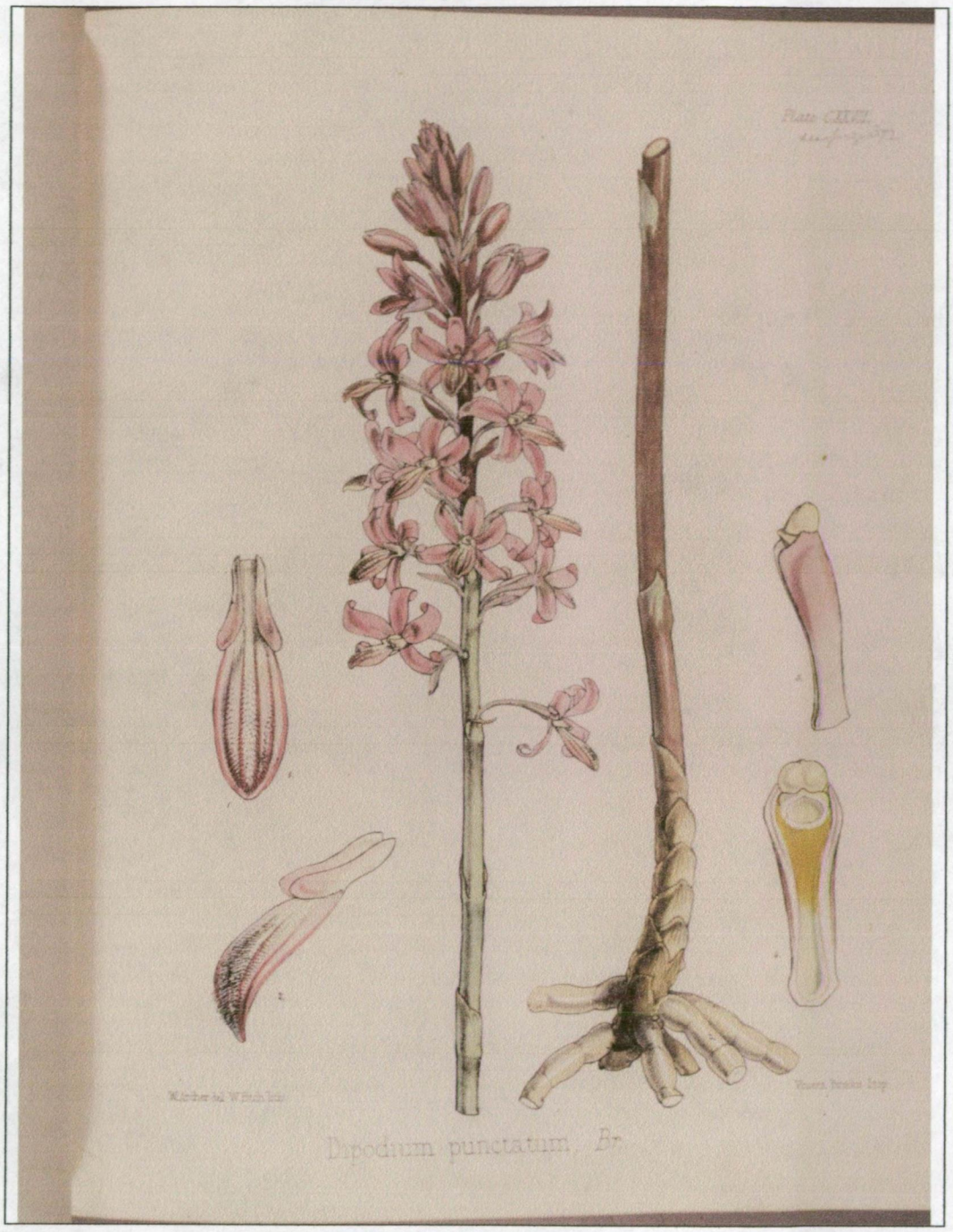


Plate CXXVII – *Dipodium punctatum* Br. – Fig. 1 and 2, labellum; 3 and 4, column: – all magnified.

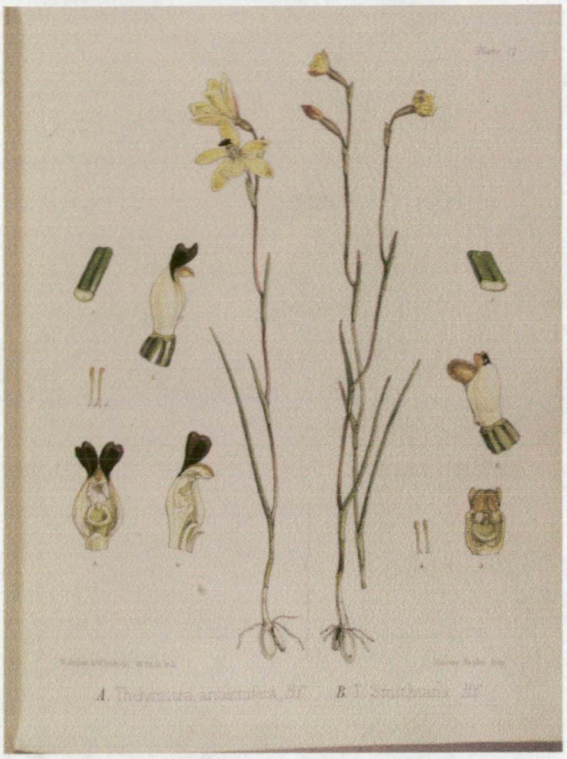
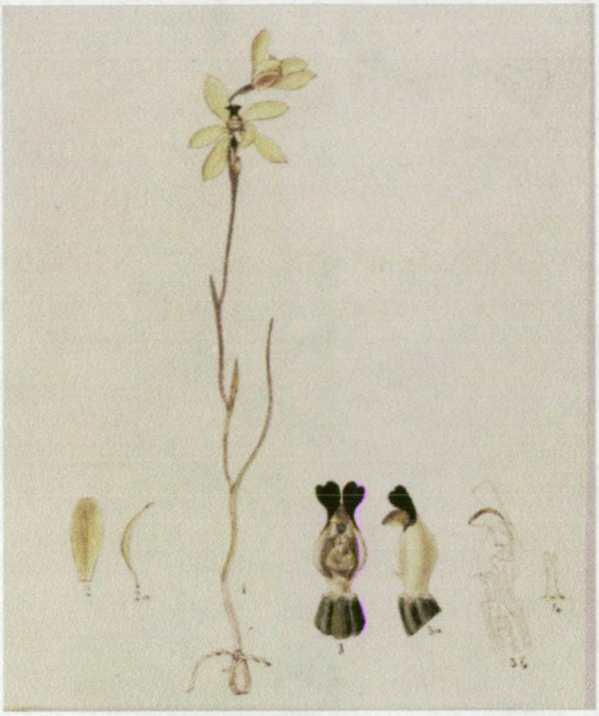
Appendix 4 – TMAG and Linnean Society Illustrations Compared with *Flora Tasmaniae*

This appendix shows a comparison of the *Flora Tasmaniae* plates lithographed by Fitch, and the Archer illustrations that were used as the basis for them.

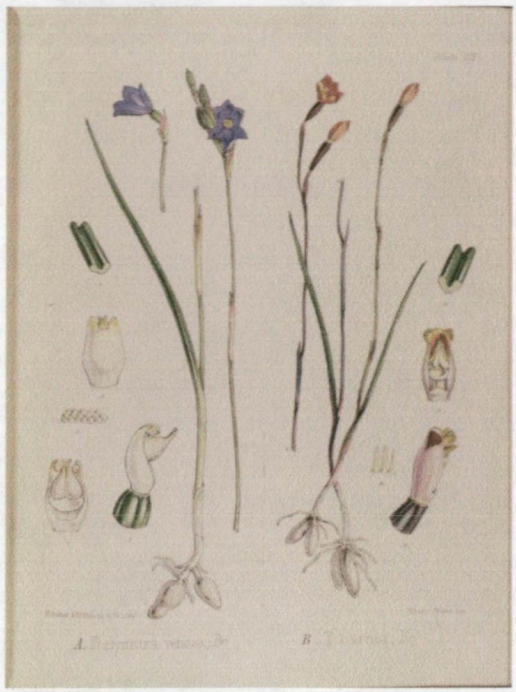
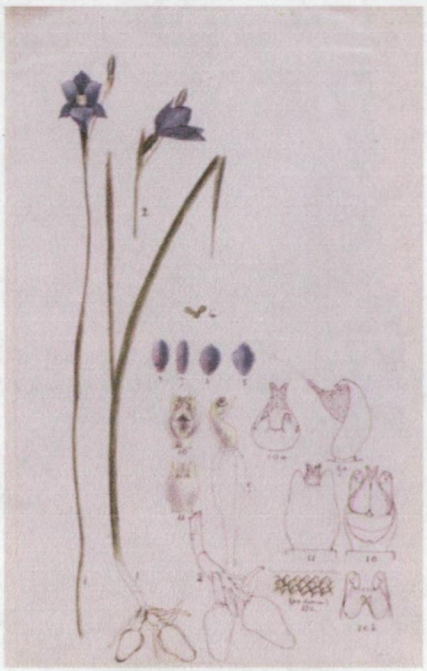
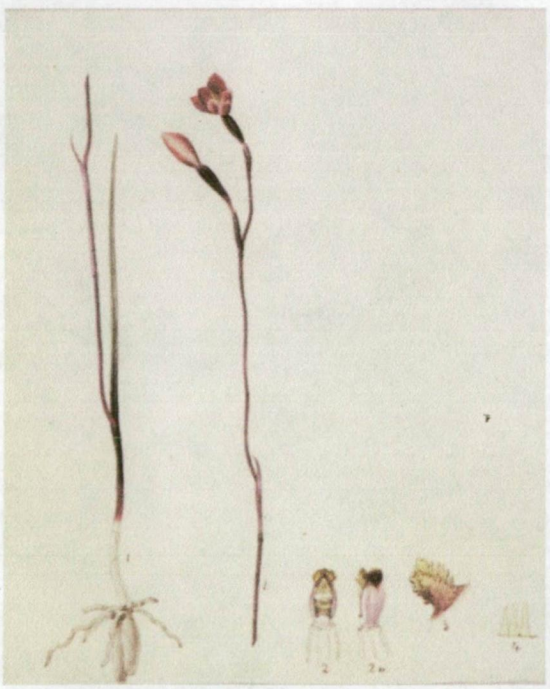
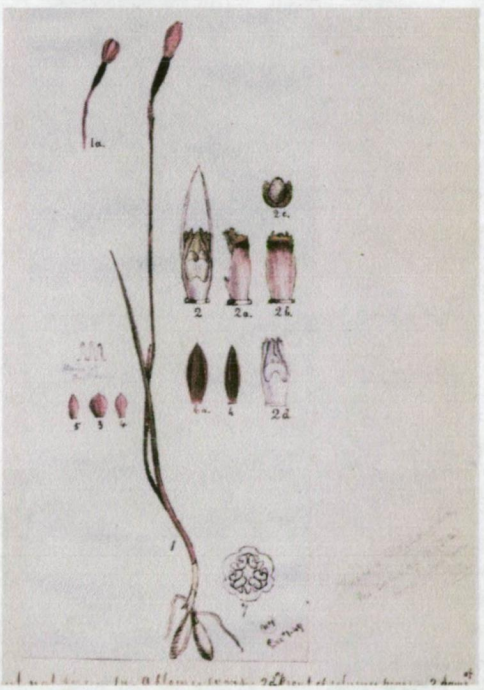
The changes, although sometimes quite minor, made to each illustration and the affect these changes may have on the identification of the species are discussed. In some cases more than one of Archer's illustrations was used to illustrate a single species in the *Flora Tasmaniae* plates and the ramifications of this are discussed.

For ease of discussion the species names used in *Flora Tasmaniae* and by Archer have been used in this appendix.

APPENDIX 4: TMAG and Linnean Society illustrations compared with *Flora Tasmaniae*.[1]

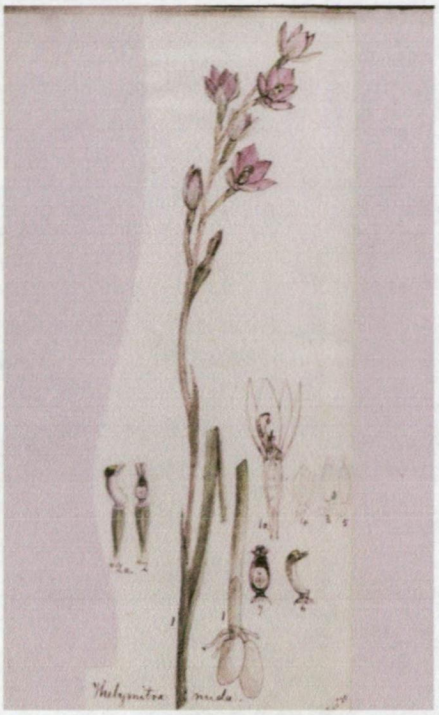
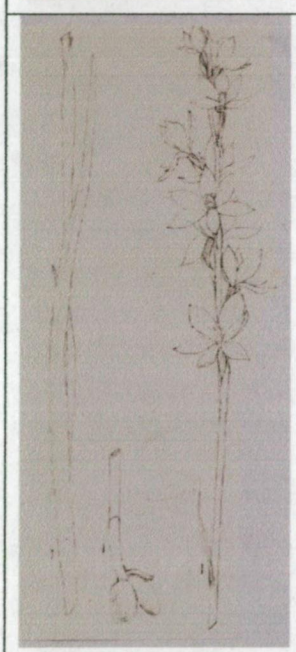
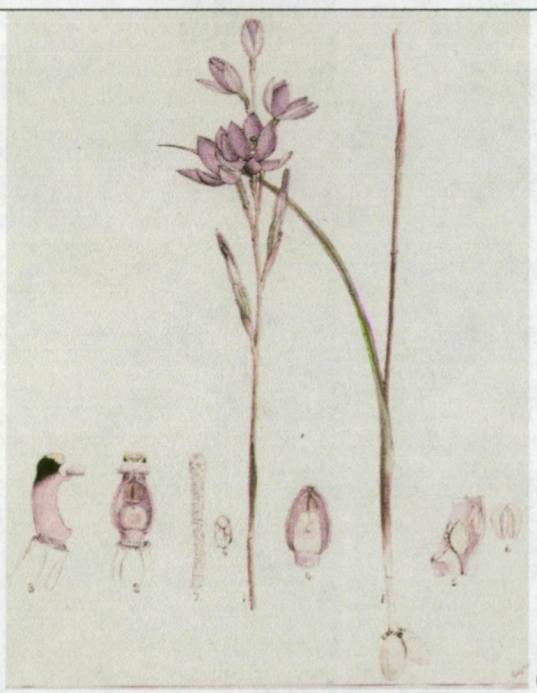
Flora Tasmaniae	**TMAG or LS illustration**
Thelymitra antennifera Hook.f.*T. smithiana* Hook.f. 	*Thelymitra antennifera* Hook.f. [LS] 
Gunnii australia Lindl. 	*T. antennifera* Hook.f. The differences between the two illustrations [FT & LS] are that Fitch has straightened the leaf and the smaller flower is slightly moved. *T. smithiana* Hook.f. Archer is cited as joint illustrator on this plate. The location of Archer's original for *T. smithiana* Hook.f. is not known. I am certain Fitch must have worked from an Archer original for the *T. smithiana* Hook.f. illustration [FT], although there is the possibility that he could have drawn this illustration solely, however, in the only instance where Fitch is named as the sole illustrator of an orchid, *Gunnii australia* Lindl., the style is so distinctive and unlike that of this illustration.

[1] For ease of discussion the names used in *Flora Tasmaniae* or by Archer have been used in all illustrations. In all cases Fitch, while basing his work on Archer's, redrew the dissections, showing them at a different angle.
Tasmanian Museum and Art Gallery = [TMAG], Linnean Society = [LS], *Flora Tasmaniae* = FT.

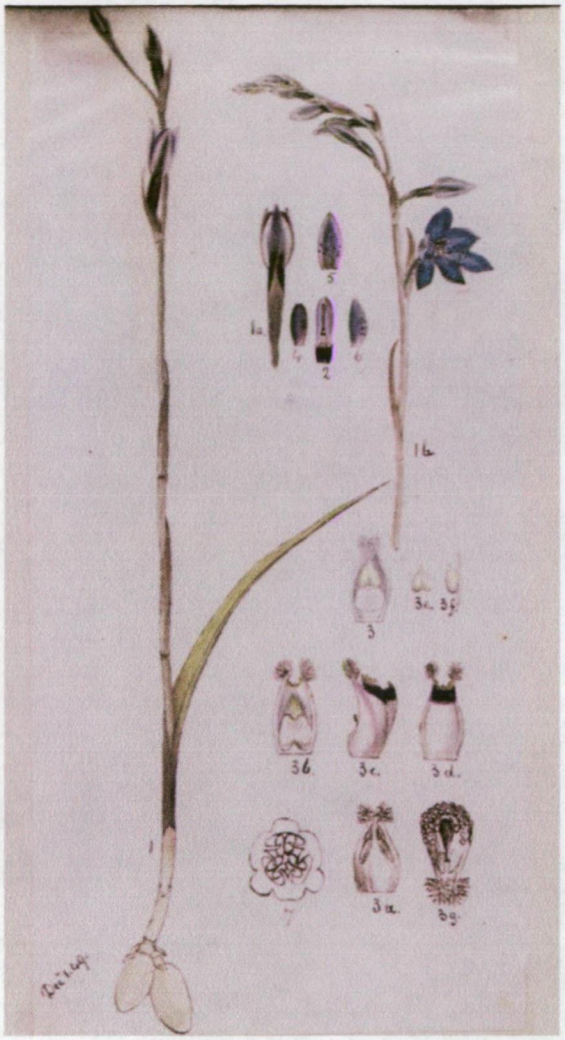
Flora Tasmaniae	**TMAG or LS**
T. venosa R.Br. *T. camea* R.Br. 	*T. venosa* R.Br. [LS] 
T. camea R.Br. [LS] 	*T. camea*? [TMAG] 

T. venosa R.Br. In the [FT] illustration two buds have been added and the leaf straightened. A bud has been removed from the side view of the flower. Archer's ancillary sketches [LS] have been used as the basis for this [FT] drawing in all but the leaf section, but have been altered slightly. Neither Archer's nor Fitch's illustration shows the distinctive veins on the sepals and petals of this species.

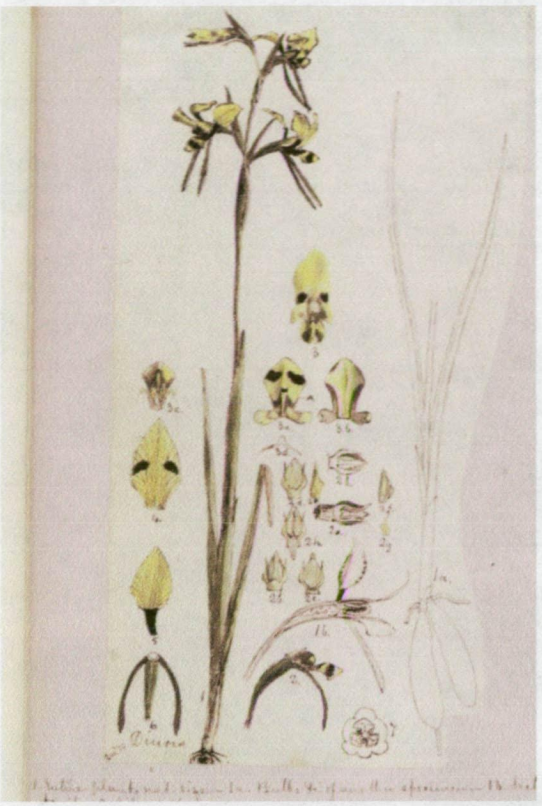
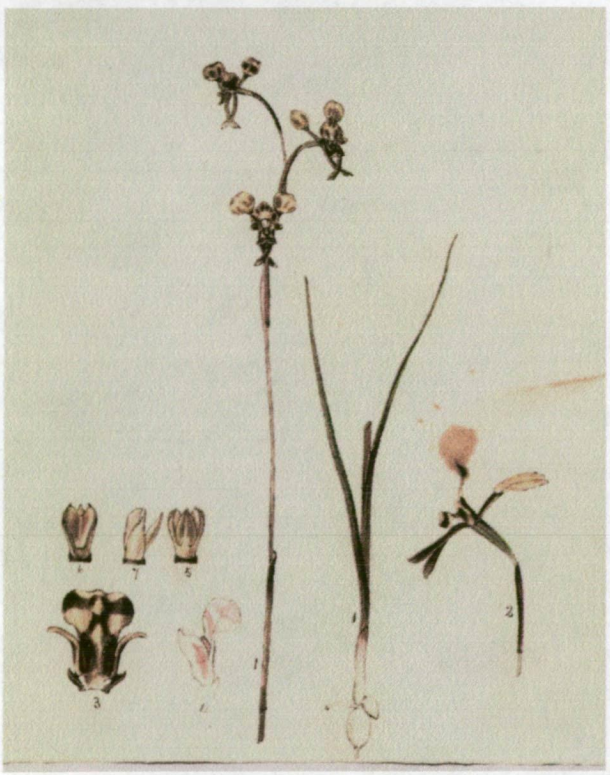
T. camea R.Br. The [FT] illustration appears to have been altered very little apart from some slight changes to the roots and the addition of a leaf section. It is possible the TMAG illustration AG7699 was also used for the [FT] illustration.

Flora Tasmaniae	**TMAG or LS illustration**
T. nuda R.Br. *T. ixioides* Sm.	*T. nuda* R.Br. A [LS] B & C [TMAG]
	 A
 B Note: This is a very faint pencil sketch	 C

T. nuda R.Br. There are four examples labelled *T. nuda* in Archer's illustrations; two held by TMAG and two by the LS. Three of these have been combined in the [FT] illustration. A [LS] and B [TMAG] have been used for the flower illustrations, and the detailed morphological sketches and possibly the stem and bulb are from C [TMAG]. The fourth illustration Archer labelled *T. nuda* var. *T. versicolor* Lindl. was not used. The use of the three illustrations leads to the risk of different species having been used. The illustration A [LS] has not been altered. Illustration B [TMAG] is a pencil sketch of the habit of the plant with no detailed morphological sketches. It is really not possible to confidently identify this as *T. nuda* R.Br. from this sketch. A bud has been added to the illustration.

Flora Tasmaniae	**TMAG or LS**
T. nuda R.Br. *T. ixioides* Sm.	*T. ixioides* Sm. [LS]
	

T. ixioides Sm. It is difficult to say with certainty that the [LS] drawing has been used for the [FT] illustration. The detailed morphological sketches look similar to Archer's [LS], and the main flower appears the same, however two more fully bloomed flowers have been added.

Flora Tasmaniae	**TMAG or LS illustration**
Diuris sulphurea R.Br. *D. maculata* Sm 	*D.sulphurea* R.Br. [LS] 
D. maculata Sm [TMAG] 	*D.sulphurea* R.Br. In the [FT] illustration the [LS] pencil sketch of the stem and bulb have been used. An extra flower has been added and the bud moved to the other side. *D. maculata* Sm. There is a combination of two drawings used for the [FT] illustration. I am confident it is based on an Archer illustration although the location of the original of one is not known. The other [TMAG] has been altered in that it is not shown with the stem cut, thereby making it appear much shorter than in Archer's original.

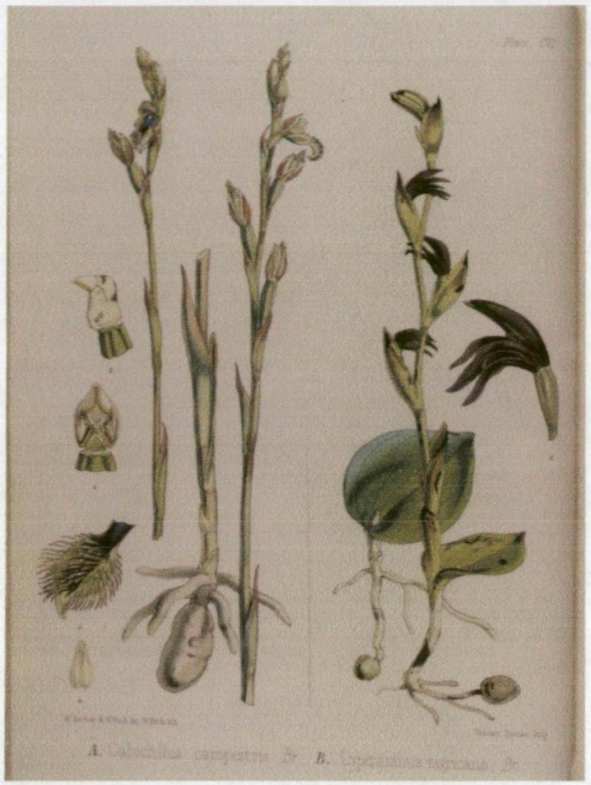
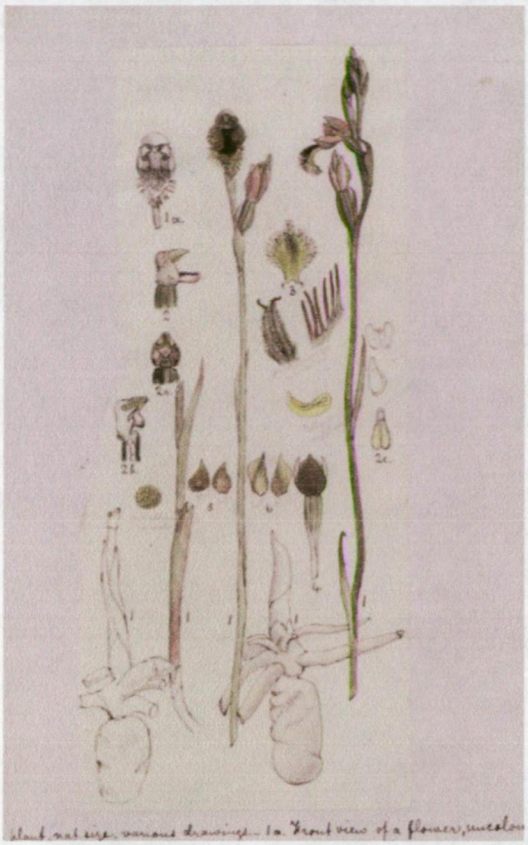
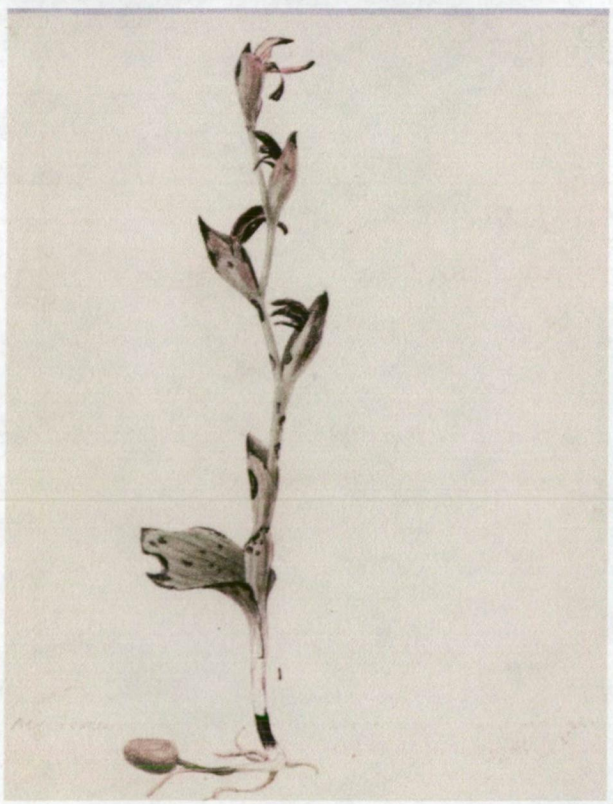
Flora Tasmaniae	**TMAG or LS illustration**
D. pedunculata R.Br. *D. corymbosa* Lindl.	*D. corymbosa* Lindl. [LS]
	

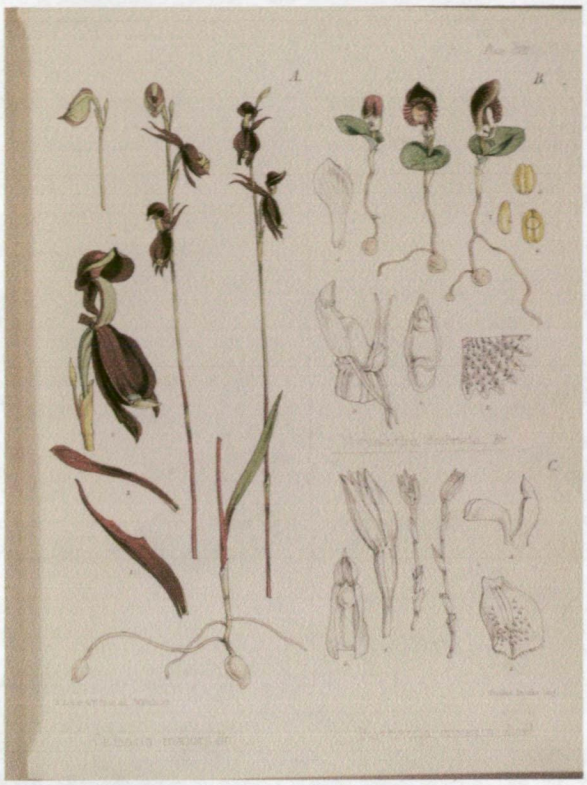
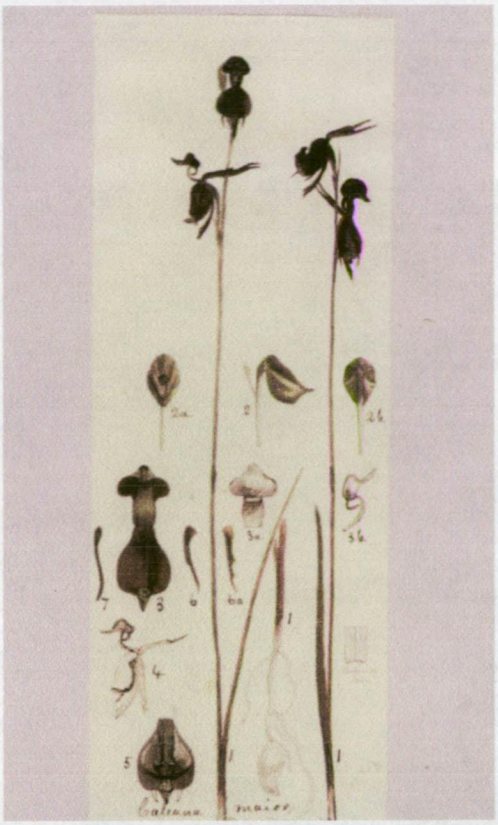
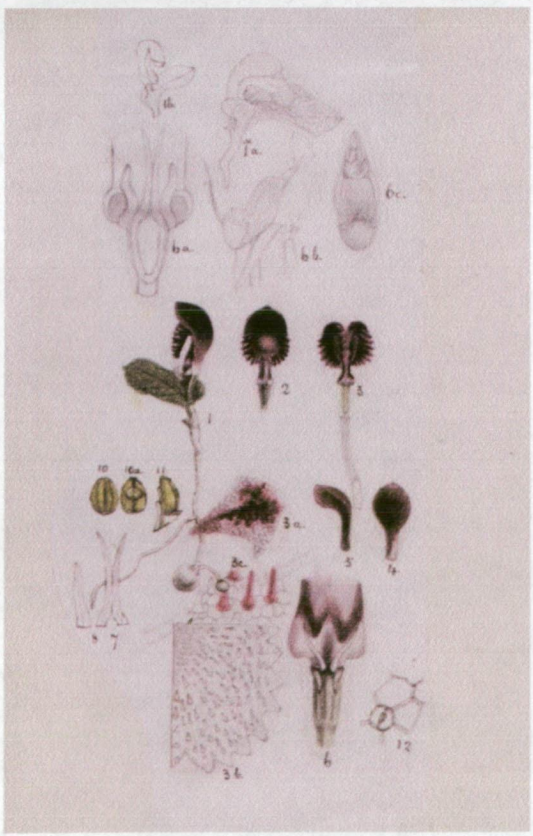
D. pedunculata R.Br. Although there is an example of *D. pedunculata* R.Br. in the TMAG collection, it does not appear to be the original for the [FT] illustration. As Archer is cited as joint illustrator, I am confident it is based on an Archer illustration although the location of the original is not known.

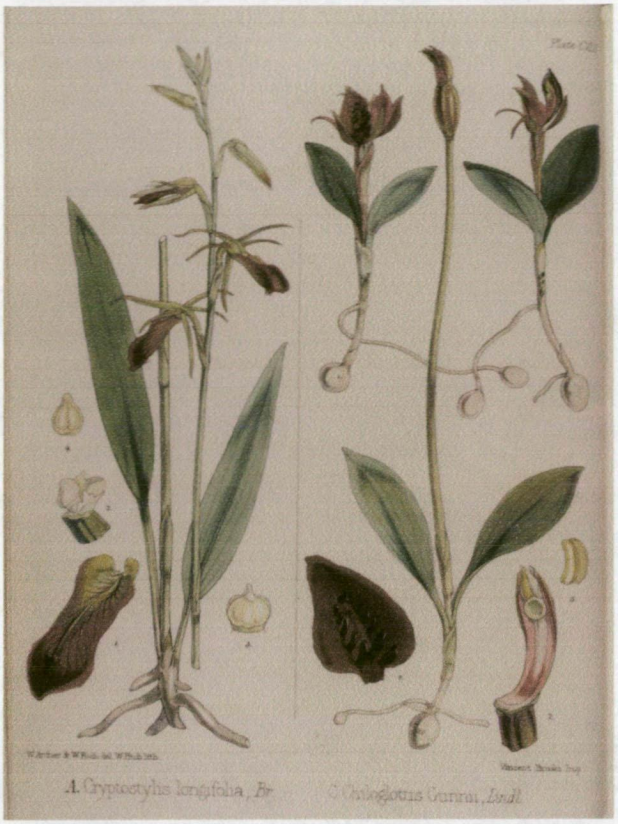
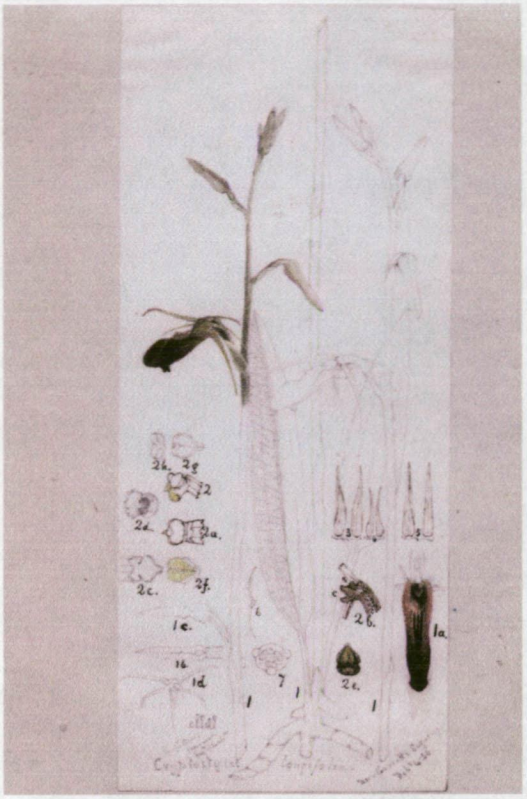
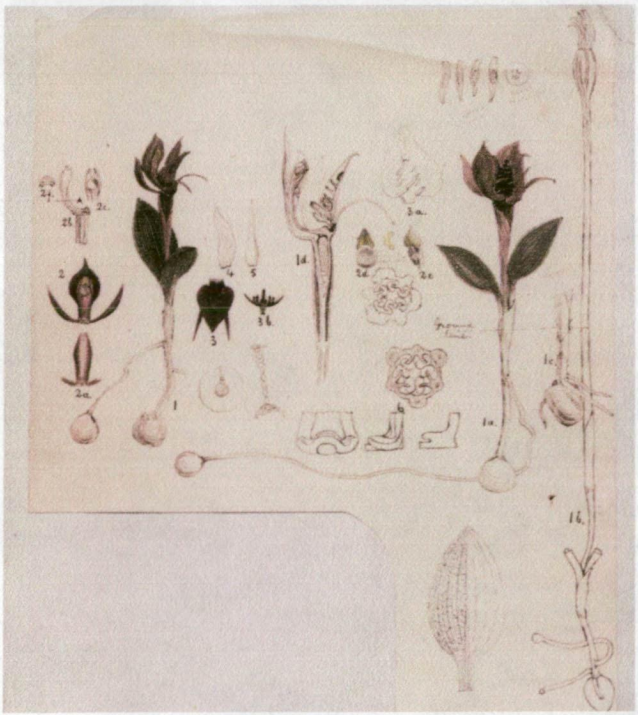
D. corymbosa Lindl. Two illustrations have been used for the [FT] illustration. The [FT] illustration has been altered in a number of ways; the stem is not shown cut, thereby making the plant much shorter than Archer's [LS] original. Two leaves have been added (making a total of five). Curtis[1] cites 2–3 leaves for this species. As Archer is cited as joint illustrator, I am confident it is based on a second Archer illustration although the location of the original is not known.

It is interesting to note that there are no additional detailed morphological sketches indicating perhaps that Fitch did no further work on the specimens than was contained in Archer's illustrations.

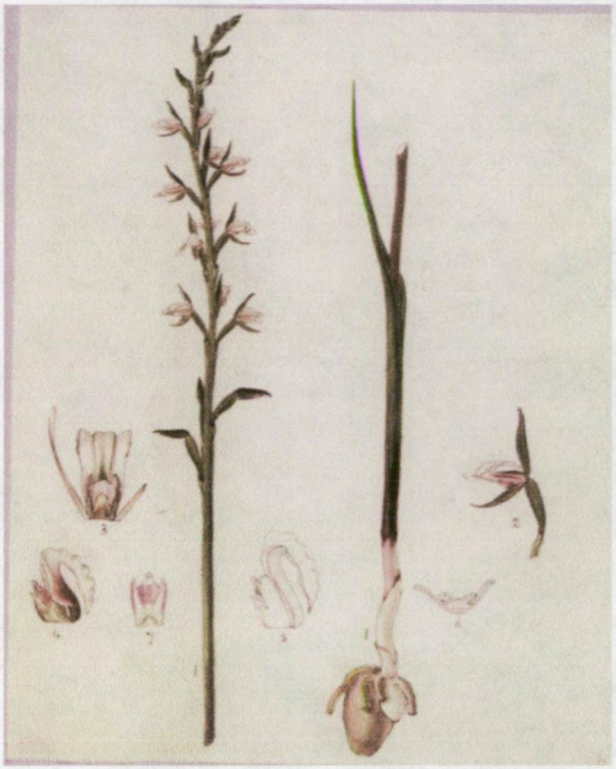
[1] Curtis, W. & Morris, D. *The Student's Flora of Tasmania,* Part 4a, Government Printer Tasmania, 1979,p 36.

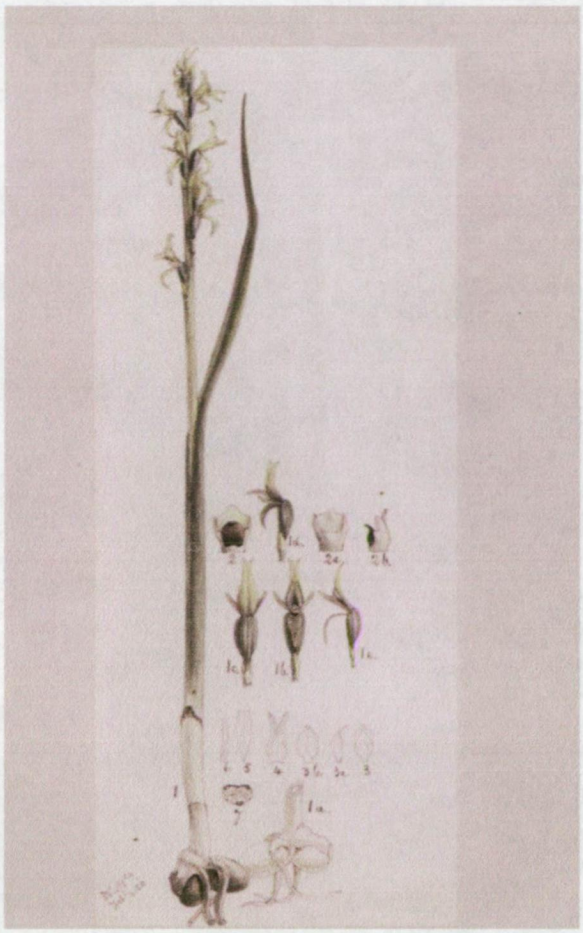
Flora Tasmaniae	**TMAG or LS illustration**
Calochilus campestris R.Br.*Lyperanthus nigricans* R.Br 	*Calochilus campestris* R.Br. [LS] 
Lyperanthus nigrocans R.Br [TMAG] 	*Calochilus campestris* R.Br. Archer has included two specimens in his [LS] illustration. In both cases extra buds have been added to the [FT] illustration. The fully bloomed flower has been moved from a front view to an angled view. *Lyperanthus nigricans* R.Br. The [TMAG] illustration was used for the [FT] illustration, although the marks on the leaves have been removed. A side view of a flower and flowerless leaf and bulb have been added to the [FT] illustration, but no detailed morphological sketches.

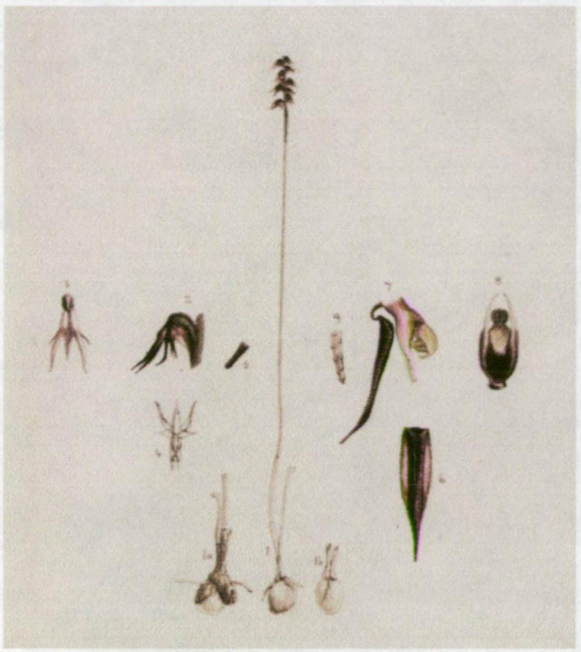
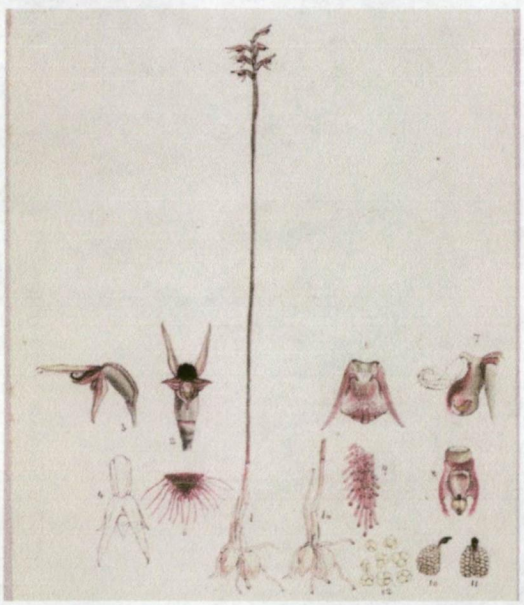
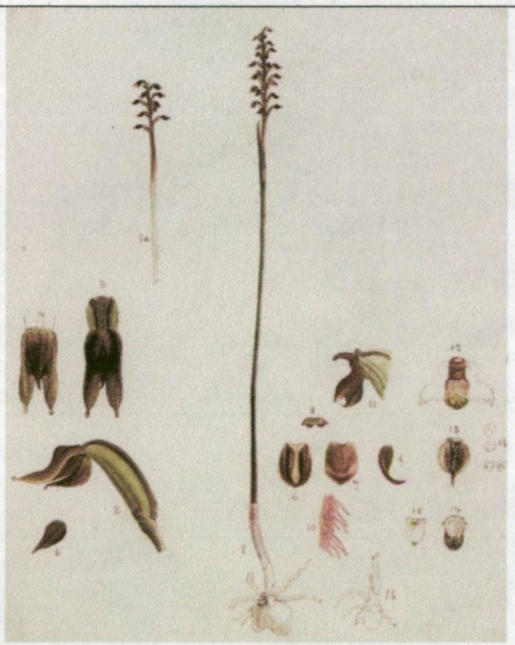
Flora Tasmaniae	**TMAG or LS illustration**
Caleana major R. Br. *Coryanthes fimbriata* R.Br. *Burnettia cuneata* Lindl. 	*Caleana major* R. Br. [LS] 
Coryanthes fimbriata R.Br. [LS] 	*Caleana major* R. Br. Archer has included two specimens in his [LS] illustration. In the [FT] illustration an extra bud has been added, and the fully bloomed flower has been moved from a front view to an angled view. An extra bulb has also been added. *Coryanthes fimbriata* R.Br. In his [LS] illustration Archer included a side, front and back view of the flower. Only the side view is of an entire plant. In the [FT] illustration there are also three views, however they all are of entire plants. One side view is not from Archer's [LS] drawing and is either a bud or perhaps another species. *Burnettia cuneata* Lindl. As Archer is cited as joint illustrator, I am confident it is based on an Archer illustration although the location of the original is not known. The [FT] illustration is uncoloured and it may be that it was based on an Archer pencil sketch, and no indication of colour was available. This is another example where it can be surmised that Fitch used only information available from Archer's is illustrations for the basis of his lithographs

Flora Tasmaniae	**TMAG or LS illustration**
Cryptostylis longifolia R.Br. *Chiloglottis gunnii* Lindl.	*Cryptostylis longifolia* R.Br. [TMAG]
	
Chiloglottis gunnii Lindl. [TMAG]	*Cryptostylis longifolia* R.Br. The [TMAG] illustration is only partially completed, the majority being only a pencil sketch. In the [FT] illustration an additional flower and three buds have been added. *Chiloglottis gunnii* Lindl. The [TMAG] illustration is only partially completed, a large part being only a pencil sketch. In the [FT] illustration leaves have been added to the illustration of the fruiting stem.
	

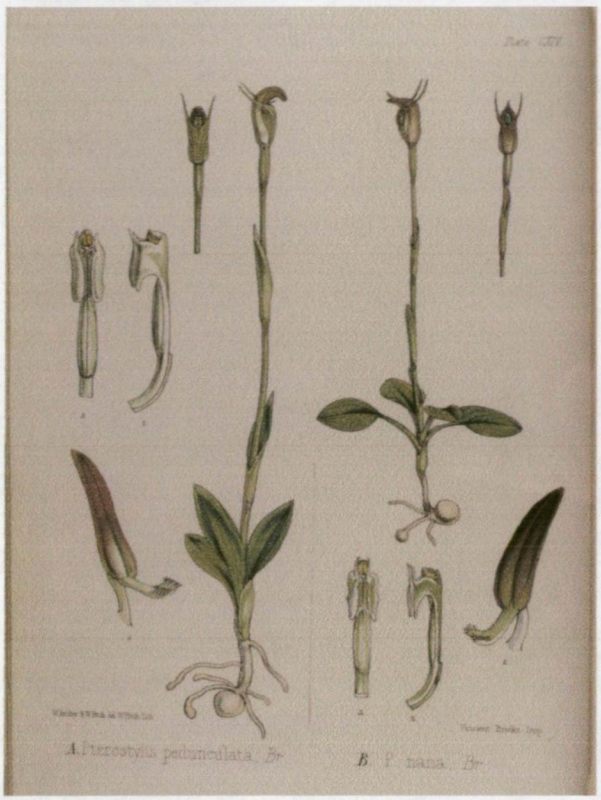
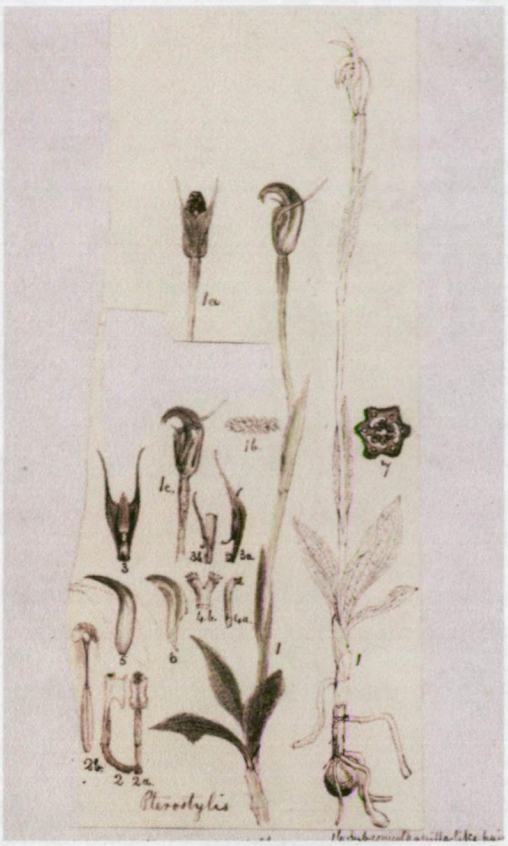
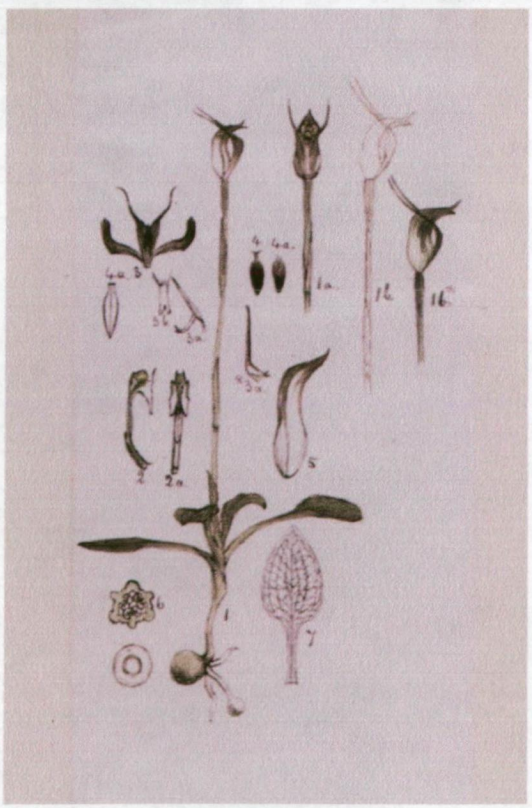
Flora Tasmaniae	**TMAG or LS illustration**
Prasophyllum flavum R.Br. *P. truncatum* Lindl.	*Prasophyllum flavum* R.Br. [LS]
	
Prasophyllum flavum R.Br. Although there is an example of *Prasophyllum flavum* R.Br.in the LS collection, it does not appear to be the basis for the [FT] illustration. *P. trunicatum* Lindl. Although there are examples of *Prasophyllum truncatum* Lindl. in the TMAG collection, they do not appear to have been the basis for the [FT] illustration. As Archer is cited as joint illustrator, I am confident the [FT] illustrations are based on Archer's illustrations although the location of the originals is not known.	

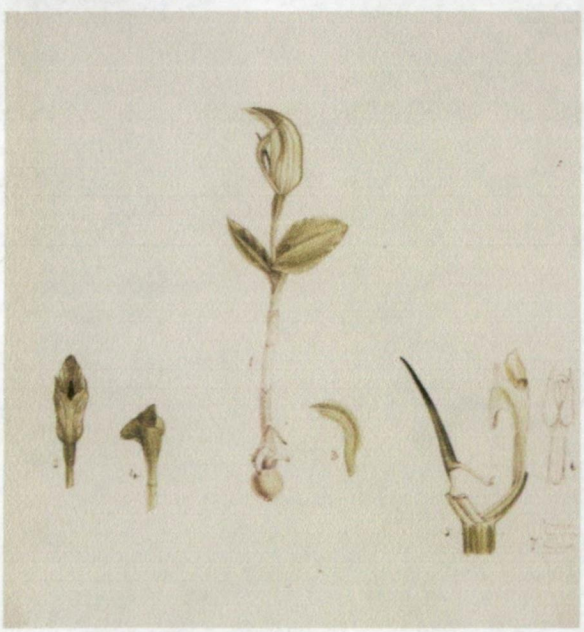
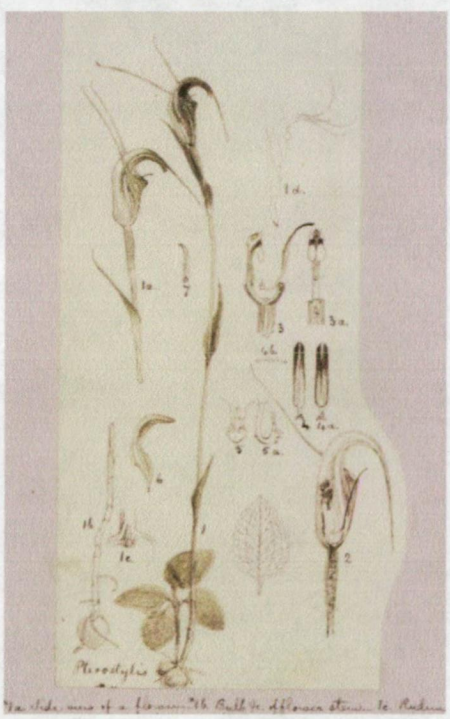
Flora Tasmaniae	**TMAG or LS illustration**
P. brevilabre Hook.f. *P. lutescens* Lindl.	*P. brevilabre* Hook.f. [LS]
	
P. brevilabre Hook.f. In the [FT] illustration another flower and several buds have been added. The overall look is of more densely packed flowers. A drawing of the pollen has been added. *P. lutescens* Lindl. As Archer is cited as joint illustrator, I am confident that the [FT] illustration is based on an Archer illustration although the location of the original is not known.	
	*P. patens* R.Br. As Archer is cited as joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original is not known.

Flora Tasmaniae	TMAG or LS illustration
P. alpinum R.Br. *P. fuscum* R.Br.	*P. alpinum* R.Br.[LS]
	
P. alpinum R.Br. Apart from straightening the leaf and adding a bud, the [FT] illustration has not been altered. *P. fuscum* R.Br. As Archer is cited as joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original is not known.	

Flora Tasmaniae	TMAG or LS illustration
P. despectans Hook.f. *P. archeri* Hook.f. *P. nudum* Hook.f. 	*P. despectans* Hook.f. [LS] *P. nudum* Hook.f. [LS] 
P. archeri Hook.f. [TMAG] 	
P. despectans Hook.f. The detail of the bulb has been altered slightly in the [FT] illustration. *P. archeri* Hook.f. I am not certain if the TMAG AG7706 was the basis for the [FT] illustration, but as there is no LS example, it is possible. It has been considerably altered if it was the basis. There are fewer flowers and the area around the bulbs has changed, but the most noticeable change is in the drawing of the flower. *P. nudum* Hook.f. A front view of a flower has been added to the [FT] illustration and the placement of the leaf-blade changed. The most striking change is the addition of a leaf as this may alter the description of the species.[1]	

[1] Curtis does not mention a leaf in her description of this species, however she does write of *P. archeri* Hook.f.; "...often a single long terete leaf arising from the base of the plant present at time of flowering." Curtis, W. & Morris, D. *The Student's Flora of Tasmania,* Part 4a, b, Government Printer Tasmania, 1979, p82.

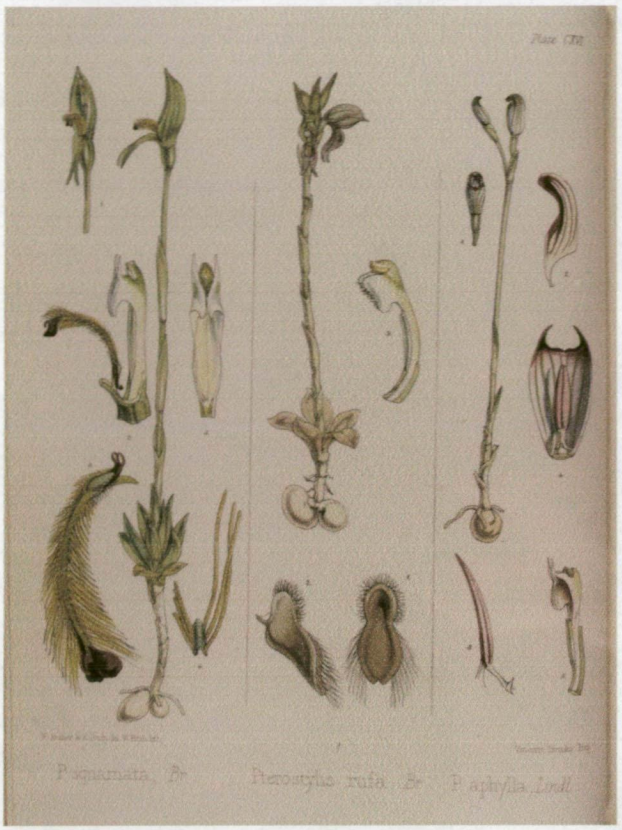
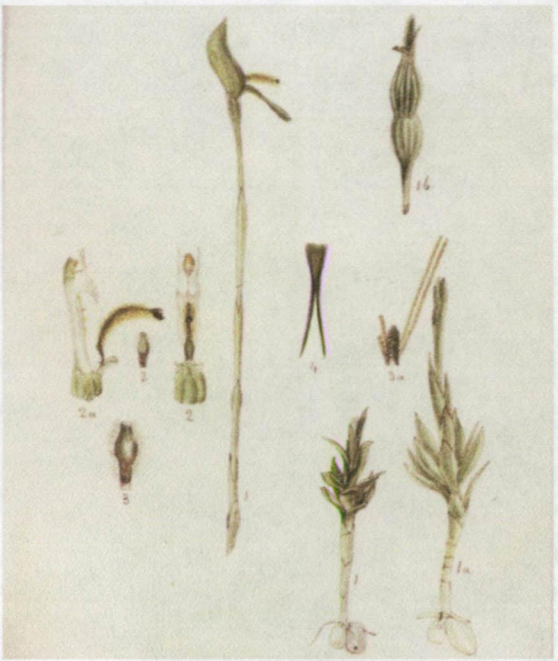
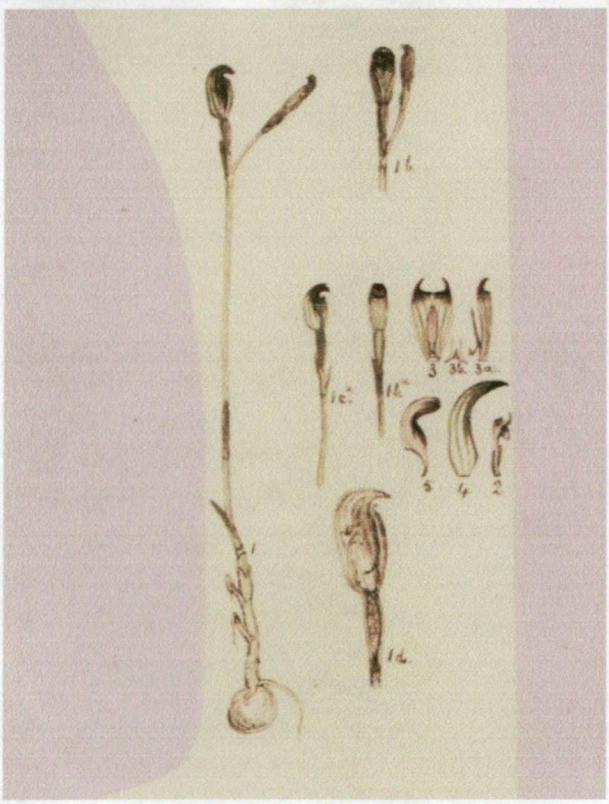
Flora Tasmaniae	**TMAG or LS illustration**
Pterostylis pedunculata R.Br. *P. nana* R.Br.  	*P. pedunculata* R.Br. [TMAG] 
P. nana R.Br. [LS] 	*Pterostylis pedunculata* R.Br. TMAG AG7687 appears to have been the basis for this illustration. The leaves have been redrawn and the view of the labellum altered. *P. nana* R.Br. In the [FT] illustration the leaves have been moved slightly and the stem- bracts have been emphasised and shown as looser around the stem. The location of the original is not known. *P. aphylla* Lindl. In the [FT] illustration the bud is shown as much shorter than in Archer's illustration. A small root has been added.

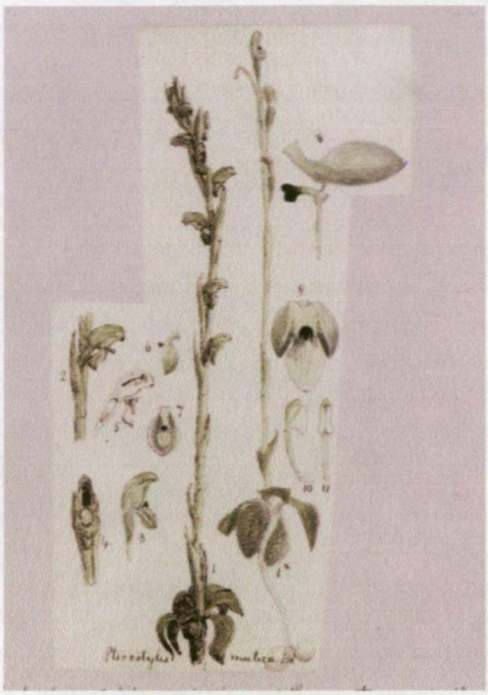
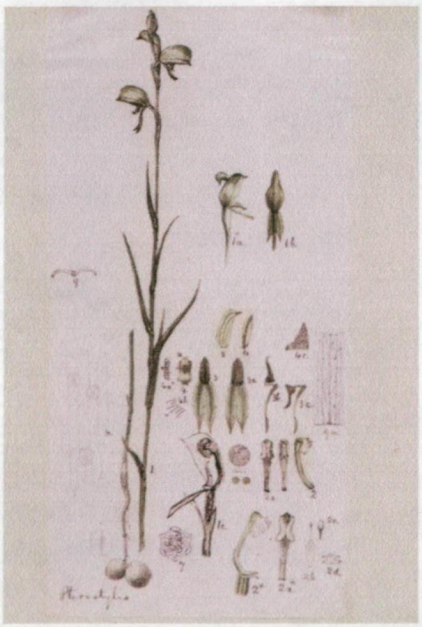
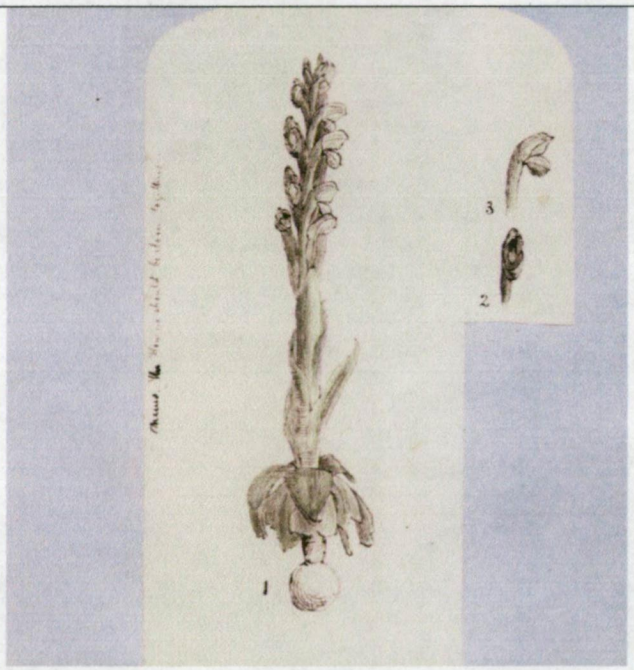
Flora Tasmaniae	**TMAG or LS illustration**
P. cucullata R.Br. *P. dubia* R.Br. *P. obtusa* R.Br. 	*P. cucullata* R.Br. [TMAG] 
P. dubia R.Br. [LS] 	*P. obtusa* R.Br. [LS] 

P. cucullata R.Br. The leaves have been redrawn in the [FT] illustration and a reduced leaf-bract added.

P. dubia R.Br. The [FT] illustration has changed little. A small root has been added.

P. obtusa R.Br. Again roots have been added to the [FT] illustration. The uppermost stem-bract has been moved lower, away from the flower.

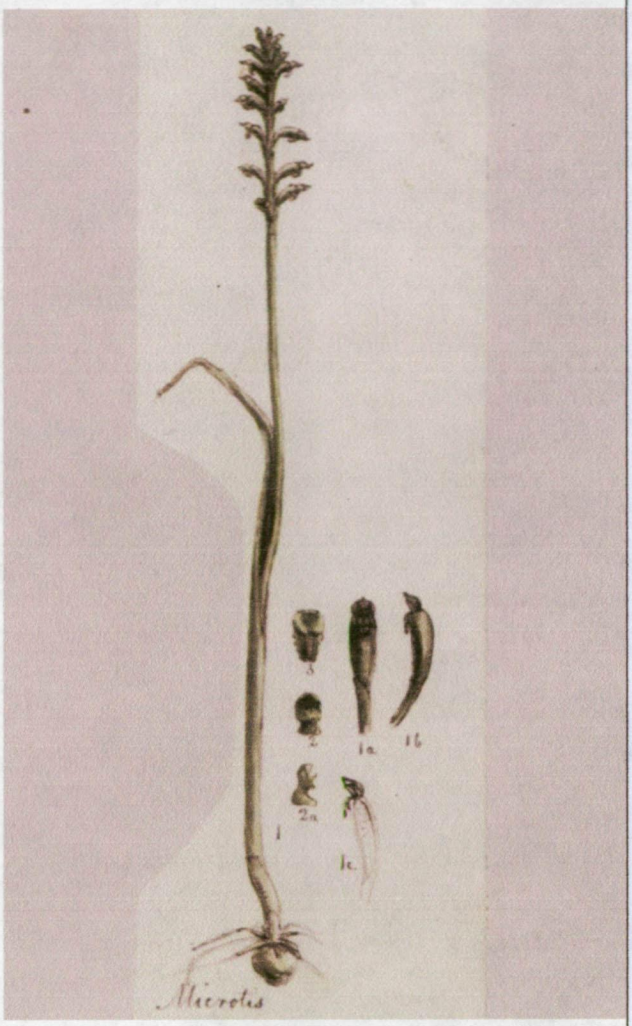
Flora Tasmaniae	**TMAG or LS illustration**
P. squamata R.Br. *P. rufa* R.Br. *P. aphylla* Lindl.  	*P. squamata* R.Br. [LS] 
P. aphylla Lindl. [LS] 	*P. squamata* R.Br. Archer drew parts of two specimens in his [LS] illustration, and the stem and flower of one and the leaves of the other have been used in the [FT] illustration. A front view of the labellum and flower has presumably been added by Fitch. *P. rufa* R.Br. As Archer is cited as joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original is not known.

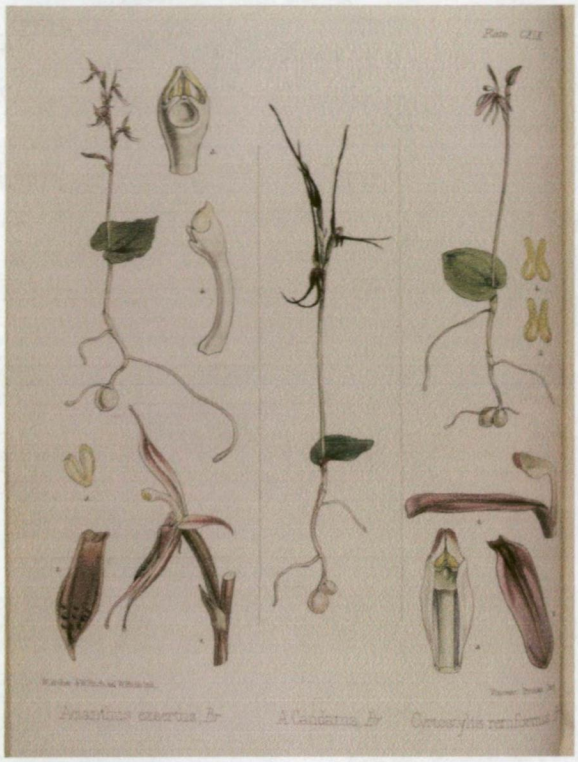
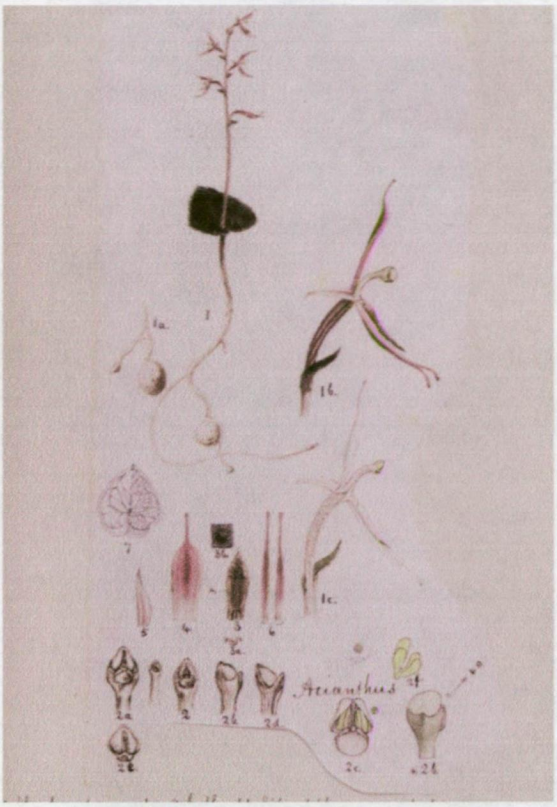
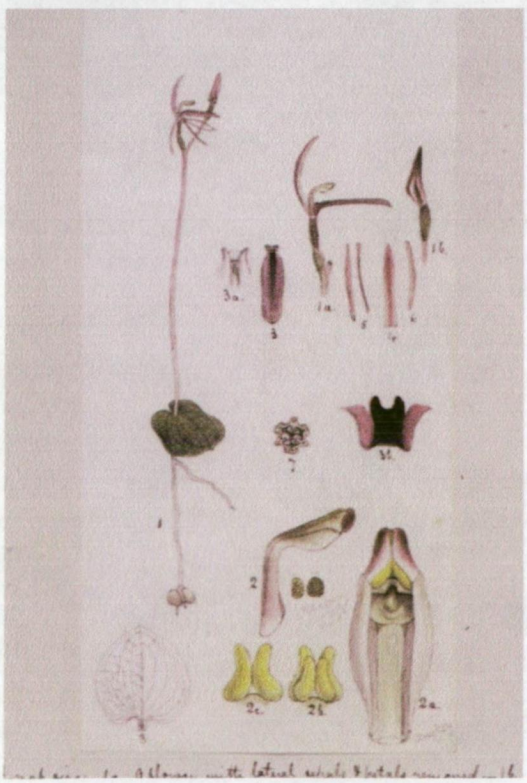
Flora Tasmaniae	TMAG or LS illustration
P. mutica R.Br. *P. longifolia* R.Br. 	*P. mutica* R.Br. [LS & TMAG] 
P. longifolia R.Br. [LS] 	

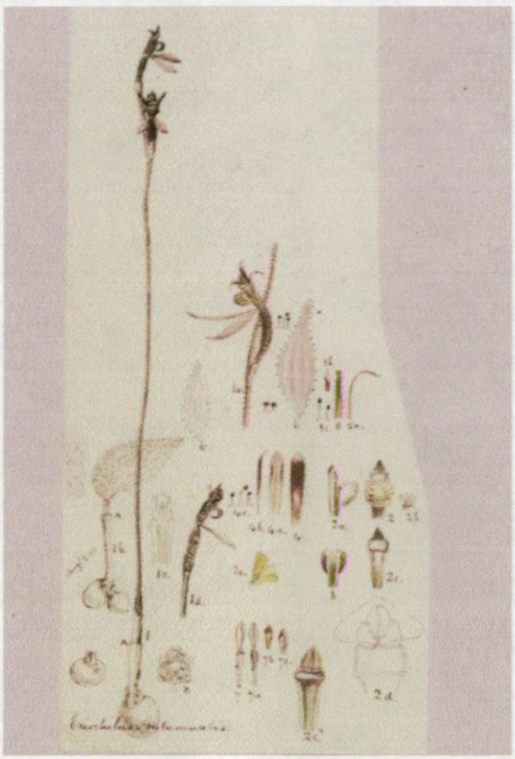
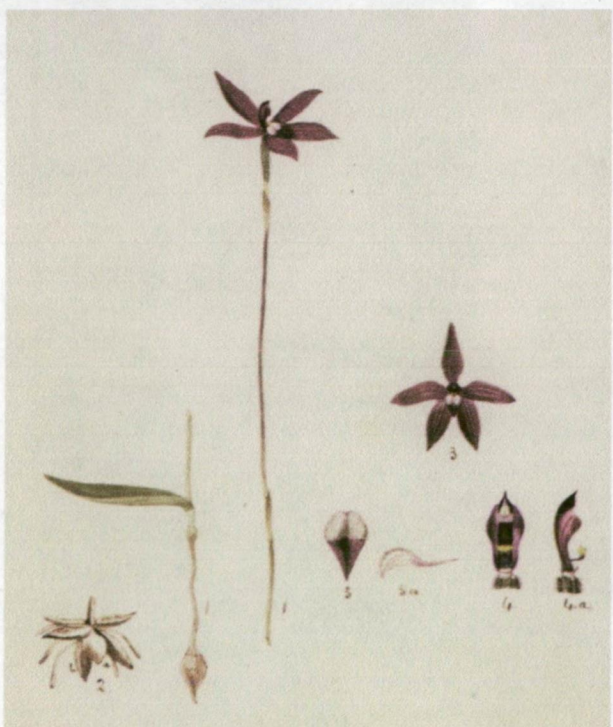
P. mutica R.Br. In the [FT] illustration two of Archer's (TMAG AG7690 and LS) have been used (In his notes Archer indicates that he believes they are different species). Archer shows the leaves as drooping as they often do during flowering.[1] The [LS] drawing shows two plants. The roots from one plant have been added to the stem of the other in the [FT] illustration.

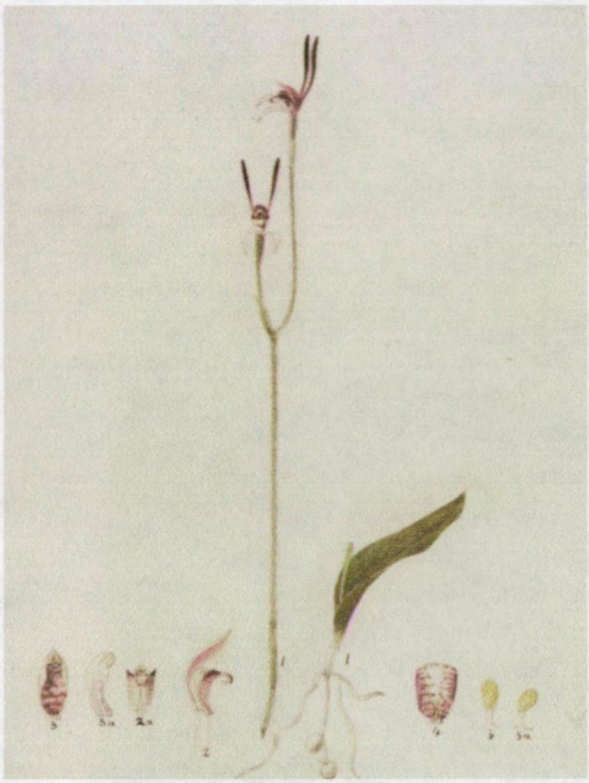
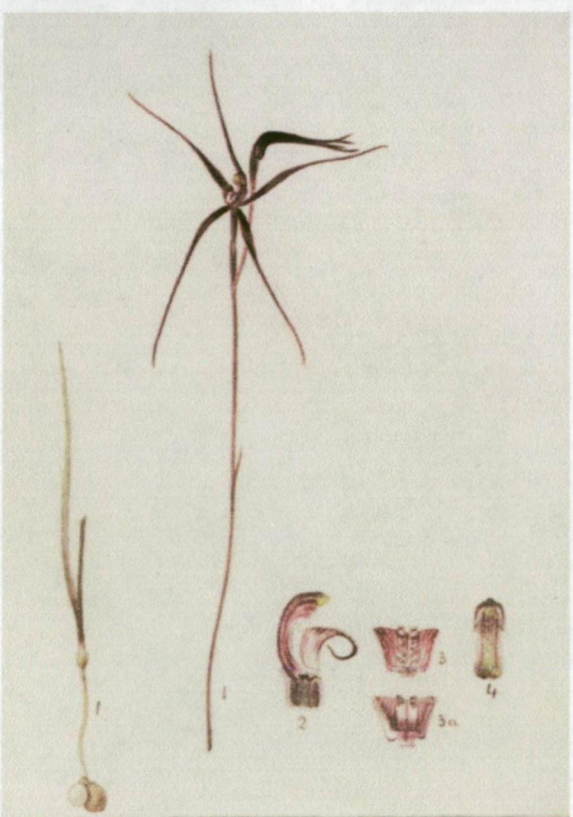
P. longifolia R.Br. In the [FT] illustration the appearance of the leaves have been altered slightly. The bud has been removed and a flower in bloom have been added to the [FT] illustration.

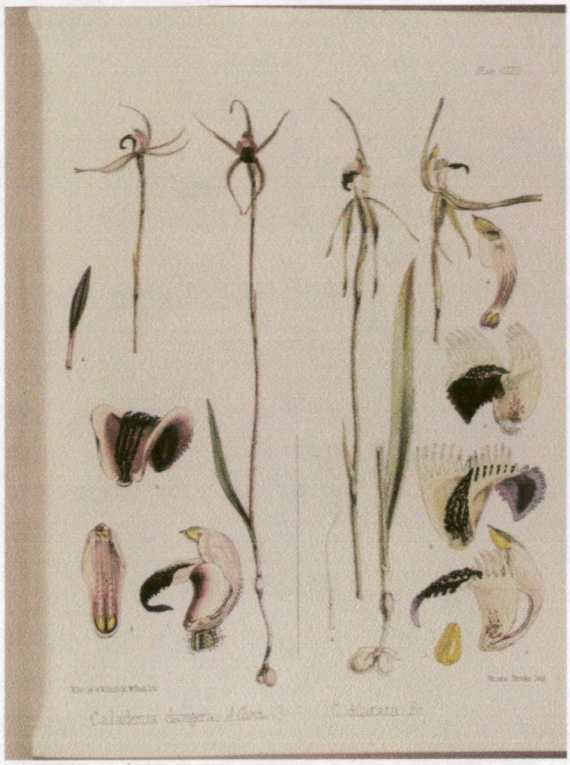
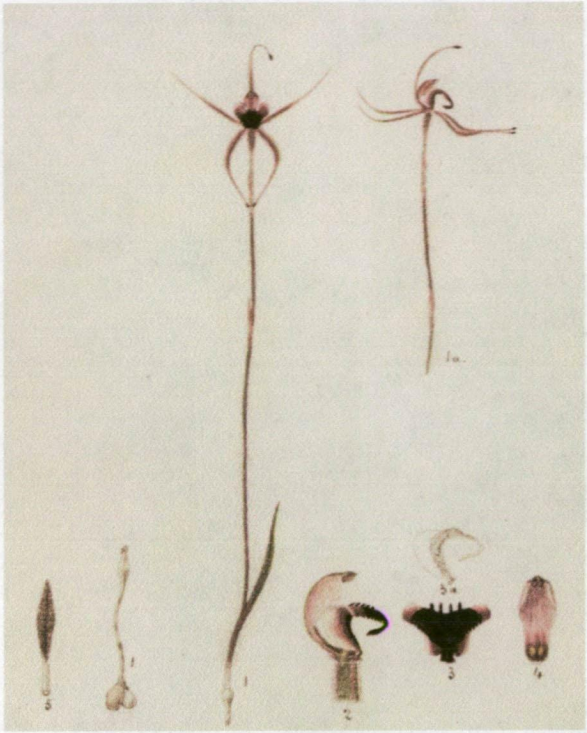
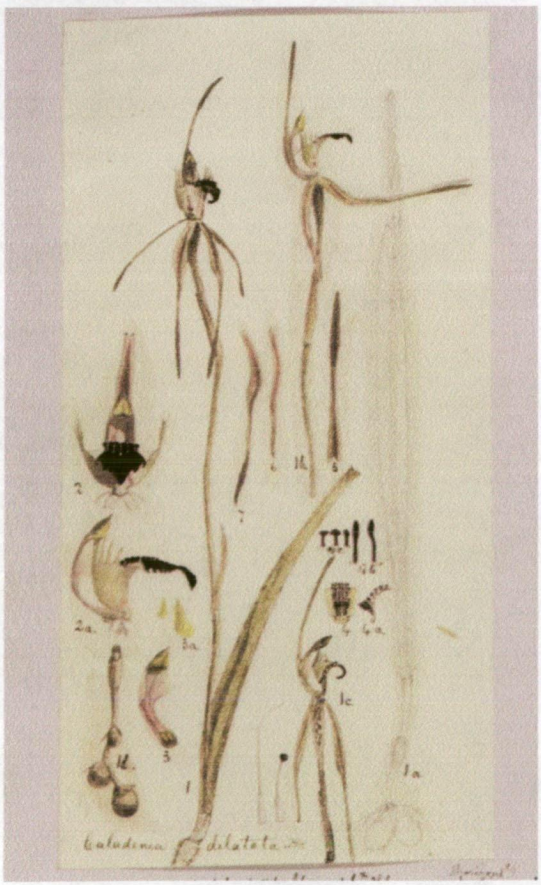
[1] Curtis notes of *P. mutica*: "leaves in a basal rosette, many, sometimes withering at the time of flowering" Winifred Curtis, *The Student's Flora of Tasmania*, Part 4a, 1979, p. 25.

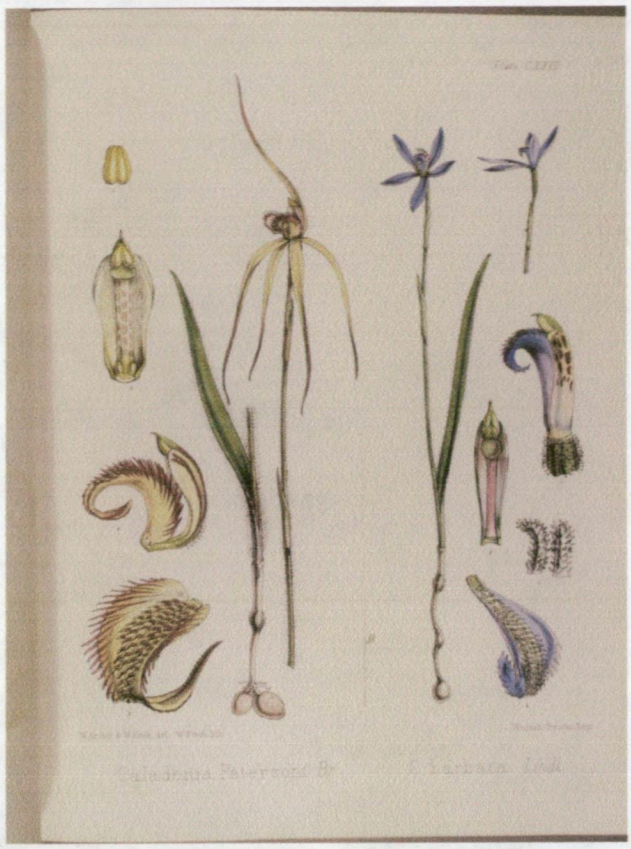
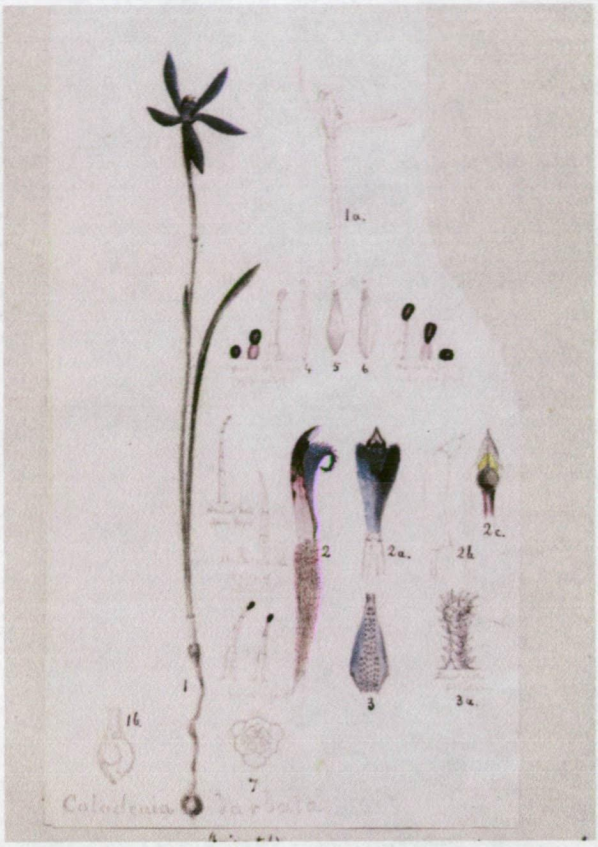
Flora Tasmaniae	**TMAG or LS illustration**
Microtis pulchella R.Br. *M. arenaria* Lindl.	*Microtis pulchella* R.Br. [LS]
	
Microtis pulchella R.Br. In the [FT] illustration the leaf has been altered to show it overtopping the inflorescence. A number of flowers and buds have been added. *M. arenaria* Lindl. As Archer is cited as joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original is not known.	

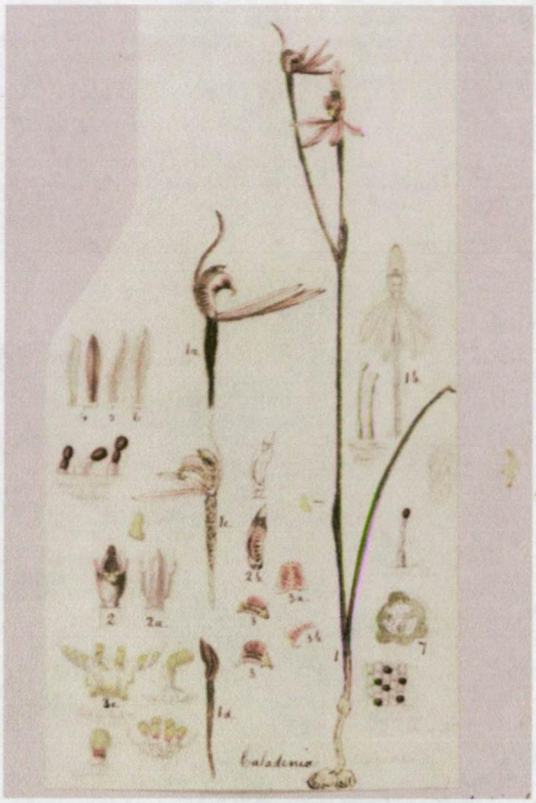
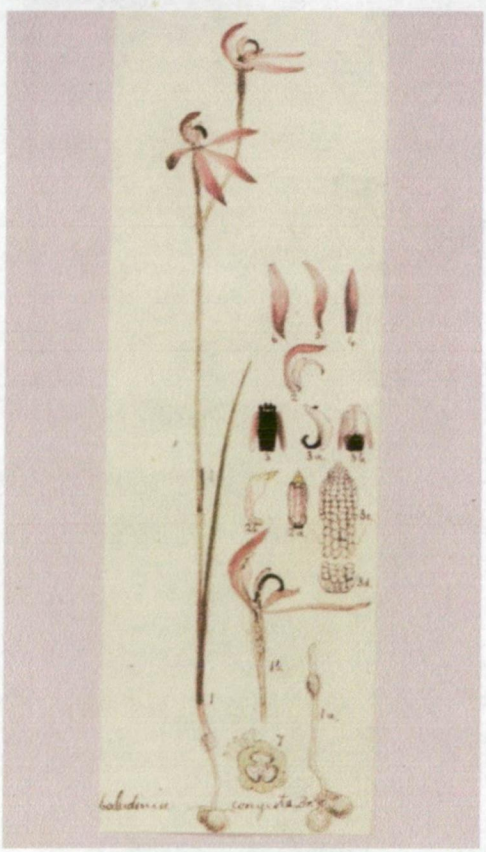
Flora Tasmaniae	**TMAG or LS illustration**
Acianthus exsertus R.Br. *A. caudatus* R.Br. *Cyrtostylis reniformis* R.Br. 	*Acianthus exsertus* R.Br. [LS] 
Cyrtostylis reniformis R.Br. [LS] 	*Acianthus exsertus* R.Br. A flower has been added to the [FT] illustration, given a more cluttered appearance to the stem. A part of stem has been added to the side view of the flower. The roots have been altered slightly to include one shown in Archer's [LS] section. *A. caudatus* R.Br. As Archer is cited as a joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original for this illustration is not known. *Cyrtostylis reniformis* R.Br. In the [FT] illustration the appearance of the leaf has been altered and roots added. The angle of bud has changed. The petals and lateral sepals have been moved slightly.

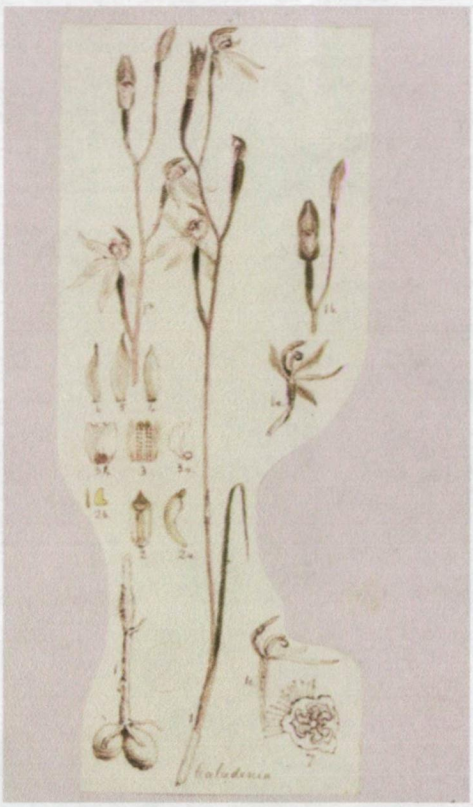
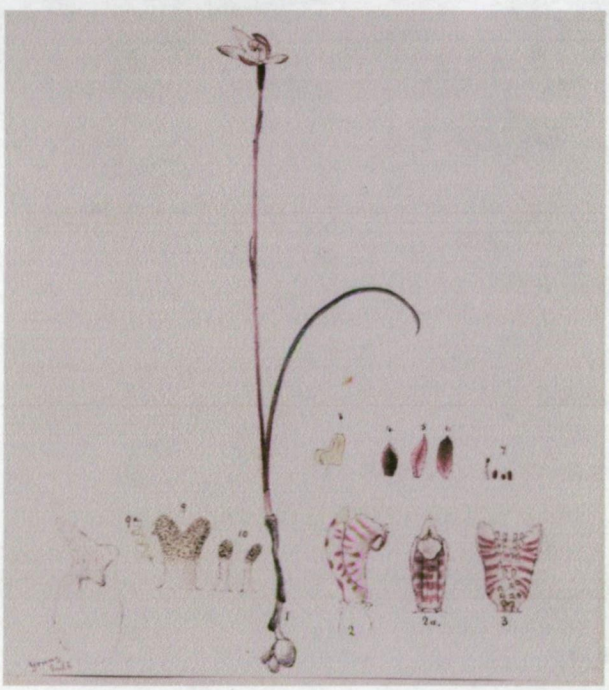
Flora Tasmaniae	**TMAG or LS illustration**
Eriochilus autumnalis R.Br. *Glossodia major* R.Br. 	*Eriochilus autumnalis* R.Br. [LS] 
Glossodia major R.Br. [LS] 	*Eriochilus autumnalis* R.Br. Archer's [LS] pencil sketch of the plant during winter has been used, although not marked as such in the [FT] illustration. The stem on the side view of the flower has been shortened in the [FT] illustration. *Glossodia major* R.Br. A side view of a flower has been added (Archer provided a front view) to the [FT] illustration. The TMAG illustration AG7703 of this species was not used.

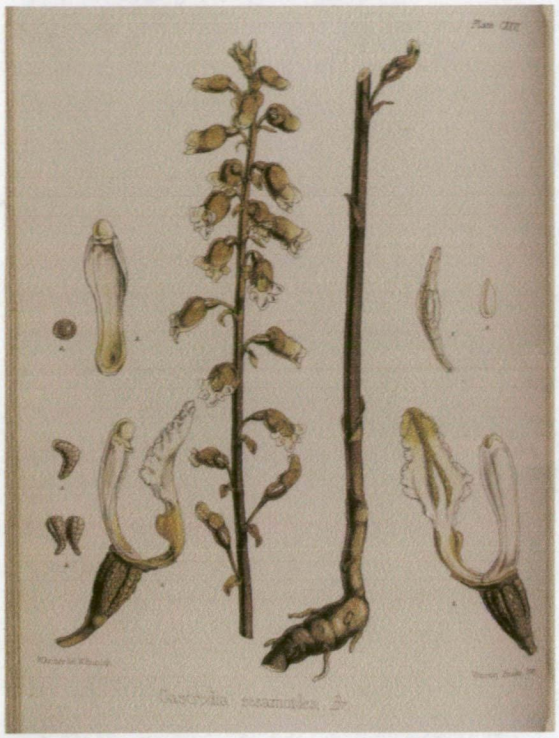
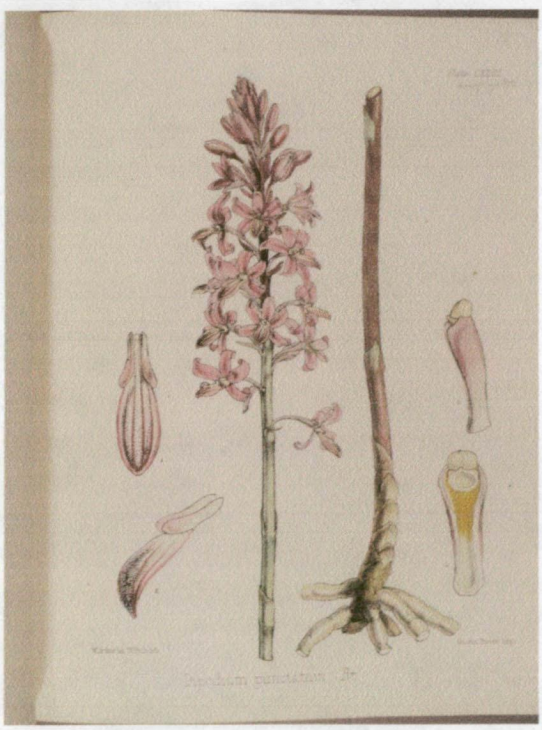
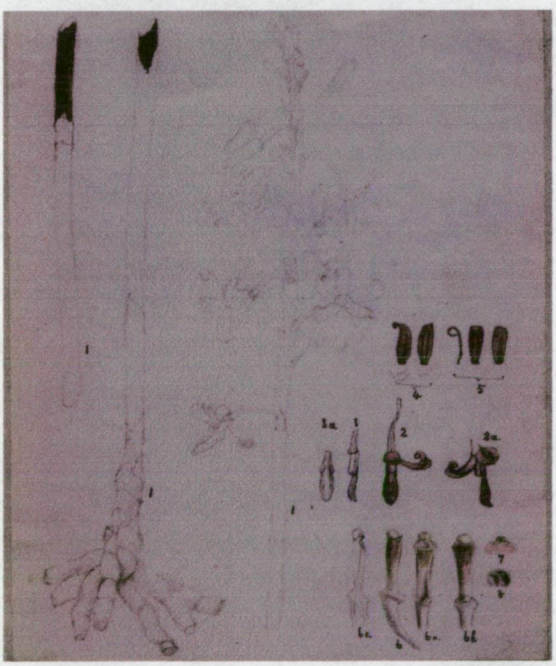
Flora Tasmaniae	**TMAG or LS illustration**
Caladenia menziesii R.Br. *C. filamentosa* R.Br. 	*C. menziesii* R.Br. [LS] 
C. filamentosa R.Br. [LS] 	*Caladenia menziesii* R.Br. In the [FT] illustration a small bud or leaf has been added at the base of the upper flower, the leaf and roots have been altered slightly. *C. filamentosa* R.Br. The bud has been altered slightly in the [FT] illustration.

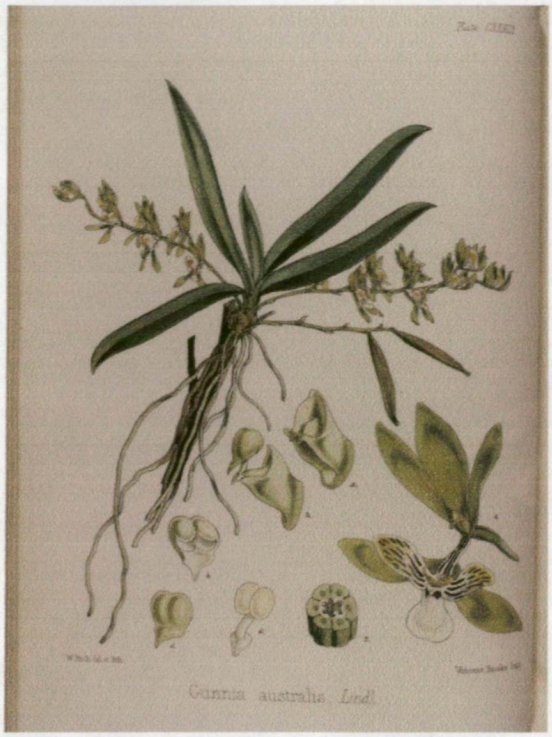
Flora Tasmaniae	**TMAG or LS illustration**
C. clavigera A.Cunn. *C. dilatata* R.Br. 	*C. clavigera* A.Cunn. [LS] 
C. dilatata R.Br. [LS] 	*C. clavigera* A.Cunn. In the [FT] illustration the flower has been moved from a front view to being at a slight angle. *C. dilatata* R.Br. In the [FT] illustration Archer's pencil section of the bulb has been used and the drawing of the entire plant only shown from the stem up. One of the lateral sepals has also been moved so that it no longer crosses the stem as in Archer's [LS] illustration.

Flora Tasmaniae	**TMAG or LS illustration**
C. patersoni R.Br. *C. barbata* Lindl.	*C. barbata* Lindl. [TMAG]
	
C. patersoni R.Br. As Archer is cited as a joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original for this illustration is not known. *C. barbata* Lindl. The leaf has been altered in the [FT] illustration. Archer's pencil side view of the flower from the TMAG illustration has been used.	

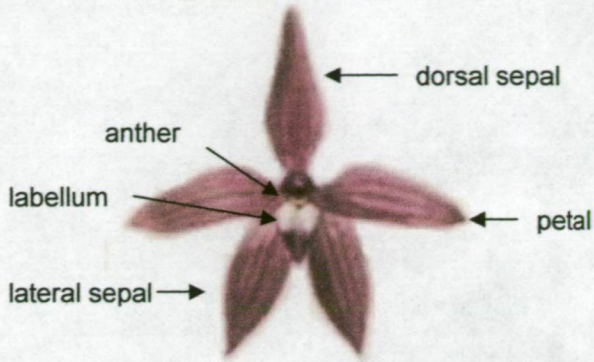
Flora Tasmaniae	**TMAG or LS illustration**
C. carnea R.Br. *C. congesta* R.Br. 	*C. carnea* R.Br. [LS] 
C. congesta R.Br. [LS] 	*C. carnea* R.Br. In the [FT] illustration the leaf has been lengthened. *C. congesta* R.Br. The leaf has been lengthened in the [FT] illustration. In his drawing Archer drew the entire plant, and added a side view of the bulb. The [FT] illustration uses that side view. Another flower has been added. There is a side view of a flower, but not the one drawn by Archer.

Flora Tasmaniae	**TMAG or LS illustration**
C. alata R.Br. *C. angustata* Lindl.	*C. alata* R.Br. [LS]
	
C. alata R.Br. Archer drew more than one specimen in his [LS] illustration. In the [FT] illustration the flowers of one specimen have been used, and the leaf has been added to the bulb and part of the stem of another specimen. The leaf has been altered. Archer shows the species distinctive Y shape of the flower junctions, but this has been lessened in the [FT] illustration. *C. angustata* Lindl. The appearance of the leaf has been altered in the [FT] illustration, and a view of a flower and bud added.	*C. angustata* Lindl. [TMAG]
	

Flora Tasmaniae	**TMAG or LS illustration**
Gastrodia sesamides R.Br. 	As Archer is cited as a joint illustrator, I am confident the [FT] illustration is based on an Archer illustration although the location of the original for this illustration is not known.
Dipodium punctatum R.Br. 	*Dipodium punctatum* R.Br. [TMAG] Note: This is a very faint pencil sketch. 
While only an incomplete pencil sketch, the TMAG illustration has been used as the basis for the [FT] illustration. Archer had coloured some of the dissections and this indicated the colour of the flowers. Some buds have been added to the [FT] illustration.	

Flora Tasmaniae	**TMAG or LS illustration**
Gunnii australis Lindl.  	This is the only example of an orchid illustration in *Flora Tasmaniae* that cites Fitch as the sole illustrator. There is no known example of this species in Archer's drawings.
This is the only Linnean Society illustration that was not used as the basis for a [FT] illustration. There is no illustration of *P. nutans* R.BR. in [FT].	*Pterostylis nutans* R.Br. [LS] 

APPENDIX 5 – Glossary[1]



anterior: front: the parts of a flower that face away from the axis and towards the subtending bract.

anther: the part of the stamen containing pollen.

appendage: a part added to another; a special outgrowth.

apiculate: with a short, sharp point which is not rigid.

bract: a modified leaf differing from the typical foliage associated with the flowers.

bulb: an underground organ consisting of a short syem bearing fleshy scale leaves or leaf bases which surround the bud for the following season. [Note: Archer uses the term bulb incorrectly. Terrestial orchids have tubers, corms or rhizomes.]

callus: a thickening which is usually hardened; pl *calli.*

capsule: a dry indehiscent fruit formed from two or more joined carples and when ripe opening in various ways.

carpel: the unit of the female part of the flower (gynoecium) consisting of the *ovary* which surrounds and encloses the ovules, the *stigma* which is receptive to pollen and, usually, the *style* which is a region between ovary and stigma.

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[1] Glossary terms obtained from *The Orchids of Tasmania* (Jones et al) and *The Student's Flora of Tasmania* (Curtis).

caudate: having a tail-like appendage. ^ a tail or tail-like appendage, hence caudate, dimin caudicle.

clinandrium: the depression on top of the column, on which the anther rests.

column: the structure formed by the union of stamens, style, and stigmas.

exine: the outer wall of a pollen grain.

fruit: strictly, the ripened ovary or ovaries after fertilization; often used to include other persistent parts of the flower, receptacle, or infructescence.

gland: a localised region secreting oil or resin or other liquid, eith sunk in the tissues of the plant or protruding, sometimes stalked and then forming a glandular hair.

inflorescence: the method of arrangement of flowers on the axis.

integments: covering: especially the covering of the nucellus of the ovule, ultimately becoming the seed-coat. Usually the nucellus is surrounded by two integments.

labellum: a lip; especially the posterior petal of an orchid flower (usually becoming anterior by resupination of the ovary) this petal differing in form from the rest of the perianth members.

lobe: a division of an organ: eg a leaf or a perianth, especially when rounded, but the division is not into completely separate parts; hence lobed.

membranous: thin and flexible.

morphology: the shape or form of an organism.

pagina: surface of the petal or sepal.

papillose: covering with minute protuberances called papillae.

perianth: collective term for calyx and corolla, used especially in describing flowers in which calyx and corolla are not readily distinguishable or in which only one of these whorls is present.

petal: a member of the inner series of perianth segments (corolla) when these differ from the outer series (calyx), and especially if brightly coloured.

pollen: the microspores of flowering plants containing male sex-cells (male gametes).

pollinium: a mass of pollen grains cohering and transported as a unit in pollination; pl. pollinia.

posterior: at or towards the back; the parts of a flower that are nearest the axis and away from the subtending bract.

sepal: an individual member of the calyx typically green and leaf-like.

spike: an inflorescence with sessil (not stalked) flowers arising in continuous succession on an elongated axis, the oldest flowers being nearest the base.

stigma: part of the carpel that is receptive to pollen.

terete: circular in transverse section, narrowly cylindrical except the ends which may be tapering.

venation: the arrangement of veins

APPENDIX 6—The Fungi

It is known from Archer's diary entries and a letter – the letter to Sir William Hooker asking for a book on fungi[1] and references to collecting and drawing "a curious fungus"[2] – that he had a keen interest in fungi as well as in orchids.

The *Flora Tasmaniae* contains examples of Archer's illustrations in the Reverend Berkeley's section on Fungi.[3] I have found no reference to Archer's contribution to the fungi in any publication, and oddly, even Dr Hooker makes no mention of it in the text of *Flora Tasmaniae*, while making frequent reference to the orchid illustrations.

Two of the three fungi plates, containing 18 different species, are cited as "W. Archer, M.J. Berkeley & W. Fitch. Del – W. Fitch lith., and one plate "W. Archer del. W. Fitch del."

Archer makes surprisingly little mention of these illustrations in his diary, with one only reference on January 13th 1858: "Collected my sketches & drawings of fungi, and sent them by post to the Reverend MJ Berkeley."[4] Archer does write of meeting Berkeley later, but does not mention the fungi drawings on this occasion. One would imagine though that they did discuss the drawings as it seems to be the first time Archer met Berkeley in person.[5]

How Archer came to be working with Berkeley is not known, however it is probable that they could have been introduced by Harvey and/or the Hookers. In a

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1 "I want an elementary work also on Fungi of all sorts, so as to learn their structure sufficiently to enable me to draw them, for dried or pickled specimens are troublesome, inconvenient & unsatisfactory." DC74.8

2 Archer's diary June 29 1847

3 Plates CLXXXIV, CLXXXV and CLXXXVI

4 Archer's diary August 31 1858

5 Archer's diary January 13 1859; "To Kew... Met Dr Harvey, & Reverend MJ Berkeley the Great Fungologist..."

letter to Hooker on July 23 1868, on hearing of Harvey's death, Archer reminisces about their collecting specimens together at Cheshunt in 1855: "...and when he came across any curious fungoid he would say 'Ah! Here's a Berkeley!'"[6]

The location of Archer's original illustrations for the Fungi plates is unknown, or even if they still exist, therefore making a comparison of them and the *Florae Tasmaniae* plates to gauge Fitch's input impossible.

Archer contributed extensively to the descriptions and habitats within the text written by the Reverend MJ Berkely.

Berkely does make reference to Archer throughout his work in *Flora Tasmaniae*. For example, for *Collema flaccidum* he writes; "Mr Archer has found at Cheshunt a species of *Collema* different from any of those described above, but has unluckily preserved only one specimen. It is unknown to us, and may be new." As with the mosses, Archer's name is on the vast majority of habitat references.

Berkely seems more generous than Mitten in naming plants after Archer; *Xerotus archeri* B., *Cortinarius archeri* B., *Irpex archeri* B., *Theleph archeri* B., *Clavaria archeri* B., *Geaster archeri* B., and *Lysurus archeri*.

[6] DC172,199

Plate CLXXXIV in Florae Tasmaniae.

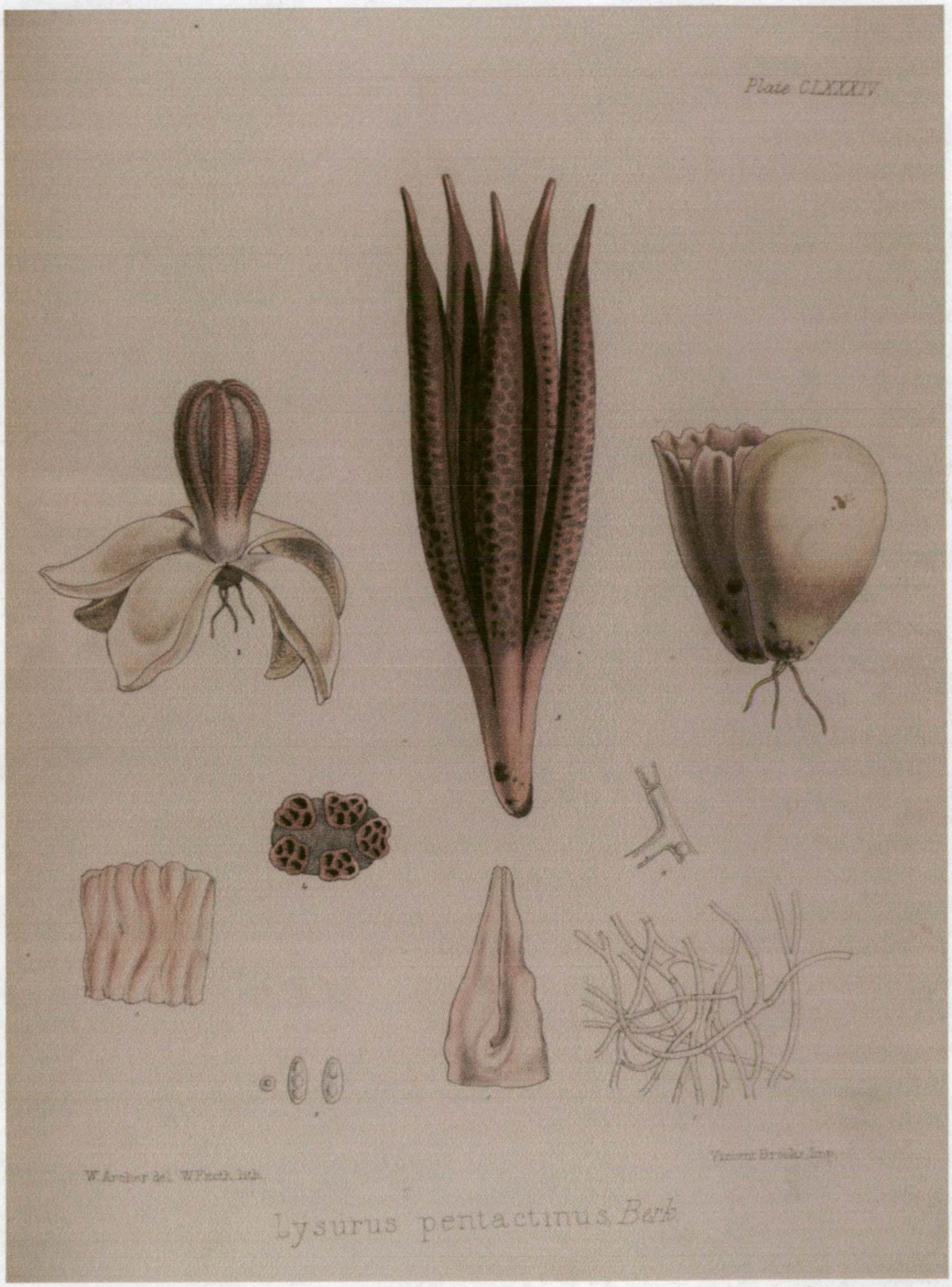
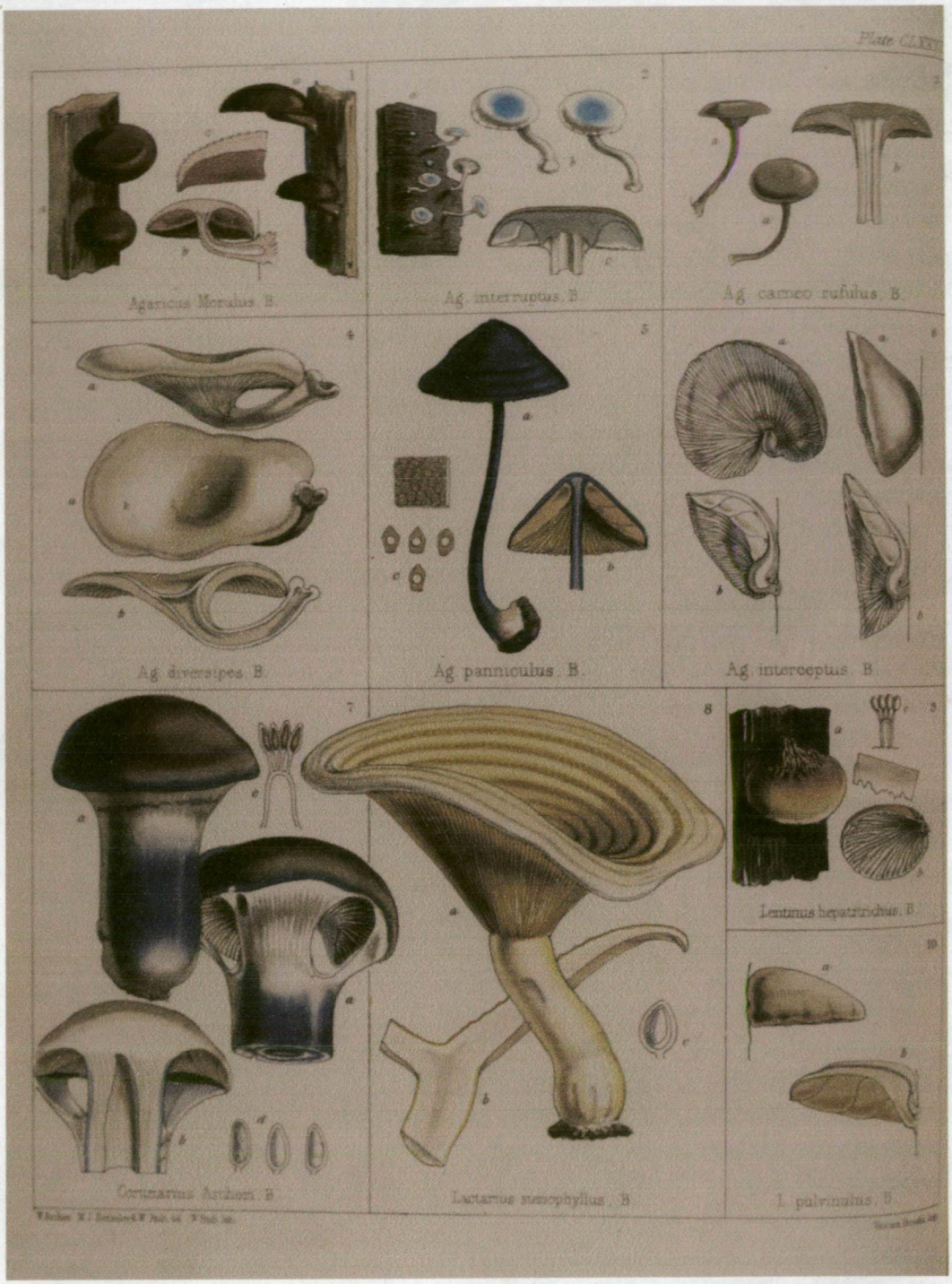


Plate CLXXXV in Florae Tasmaniae.

Plate CLXXXVI in Florae Tasmaniae.



APPENDIX 7—Tables

Table 1: Publication dates of Flora Tasmaniae.

Part	No	pages	plates	dates
1	1	1–80	1–20	24/10/1855
	2	81–160	21–40	13/5/1856
	3	161–240	41–60	17/10/1856
	4	241–320	61–80	28/7/1857
	5	321–359	81–100	1/12/1857
2	6	1–80	101–120	3/5/1858
	7	81–160	121–140	3/9/1858
	8	161–240	141–160	15/2/1859
	9	241–320	161–180	16/8/1859
	(Supplement) 10	321–422	181–200	29/12/1859
	(Introduction) 11	i–cxxviii, 1–18		29/12/1859

Table 2: Works by William Archer held by TMAG.

TITLE	DATE	MEDIUM	TMAG NO
Items listed below, plus 2 photographs of Pansanger, 2 tickets to the Crystal Palace 1857, and a drawing by Daniel Herbert.*			AG7720
Design for mausoleum	1855	pen/ink/wash on paper	AG7720.1
Proposed additions to Woolmers, Longford	1855	pencil/pen/ink/wash	AG7720.2
Proposed additions to Woolmers, Longford	1855	pencil	AG7720.3
View of schoolhouse to be erected at Perth	1846	pencil on paper	AG7720.4
Unidentified house, Tasmania	1855	pencil on paper	AG7720.5
Study of vegetation	1855	pencil on paper	AG7720.6
View of Woolmers and surrounding landscape	1855	pencil on paper	AG7720.7
Landscape surrounding Woolmers	1855	pencil on paper	AG7720.8
View of Woolmers	1855	pencil on paper	AG7720.9
View of Woolmers	1855	pencil on paper	AG7720.10
From Drawing Room window	1855	pencil/watercolour on paper	AG7720.11
Woolmers?	1855	pencil on paper	AG7720.12
Bishop William Grant Broughton	1844	pencil on thin paper	AG7720.13
Silhouette of Grandpapa	?	black paper laid on white with ink wash	AG7720.14.1
Silhouette of Grandmama	?	black paper laid on white with ink wash	AG7720.14.2
Notes on orchid *Macdonaldia* Gunn?	1855	pen and ink on pale blue paper	AG7720.15
Arrangement of drawings. Orchideae Br.	1855	pen and ink on blue paper	AG7720.16
Sketchbook with 8 remaining leaves (16 pages) containing 8 drawings and 8 blank pages	?	pencil on paper	AG7721
St Francis – after Carlo Maratti (p1)	?	pencil on paper	AG7721.1
St Francis after Guercino (p3)	?	pencil on paper	AG7721.2
St Jerome with his lion after Palma Jovine (p5)	?	pencil on paper	AG7721.3
Male figure sitting on a plinth supporting a board on his head – after Rysbrack (p7)	?	pencil on paper	AG7721.4
Fallen male figure – after Rubens (p9)	?	pencil on paper	AG7721.5
Pieta (p11)	?	pencil on paper	AG7721.6
Study of trees (p14)	?	pencil on paper	AG7721.7
Study of tree trunks (p16)	?	pencil on paper	AG7721.8

Table 3: The Tasmanian Museum and Art Gallery Illustrations, their Registration Number and Identification.

Archer drawing	TMAG	Identification
Thelymitra Forst.	AG7686	*Thelymitra* Forst. [Archer] [AH]
Pterostylis Br.	AG7687	*Pterostylis* [AR]
Prasophyllum Br.	AG7688	*Prasophyllum* [Archer] [AH]
Dipodium punctatum Br.	AG7689	*D. roseum* D.L. Jones & M.A. Clem. [AR]
Pterostylis Br.	AG7690	*Pterostylis ?cycnocephala* Fitzg. [AR]
Prasophyllum	AG7691	*Prasophyllum rostratum* [Archer] [AH]
Prasophyllum rostratum	AG7692	*Prasophyllum rostratum* [Lindley] [AH]
Chiloglottis Br. *C. diphylla* Br.	AG7693	*Chiloglottis reflexa* (Labill.) Druce [AH]
Thelymitra Forst. *pauciflora*	AG7694	*Thelymitra pauciflora* Forst. [Archer] [AH]
Prasophyllum alpine	AG7695	*Prasophyllum rostratum* [Lindley] [AH]
Prasophyllum truncatum var.	AG7696	*P. truncatum var.* [Archer] [AH]
Prasophyllum	AG7697	*Prasophyllum* [Archer] [AH]
Caladenia Br.	AG7698	*Caladenia* [Archer] [AH]
Thelymitra carnea	AG7699	*Thelymitra carnea* [Archer] [AH]
Thelymitra Forst.	AG7700	*Thelymitra* [AR]
Lyperanthus nigricans	AG7701	*Pyrorchis nigricans* D.L. Jones & M.A. Clem [AH]
Dipodium punctatum + Pterostylis	AG7702	*Dipodium roseum + Pterostylis* [AR]
Glossodia major	AG7703	*Glossodia major* R.Br. [AH]
Chiloglottis Br. *C Gunnii*	AG7704	*Chiloglottis triceratops* D.L. Jones [AR]
Pterostylis Br.	AG7705	*Pterostylis* [AR]
Prasophyllum Br. *P Archeri* (Hook.f)	AG7706	*Genoplesium archeri* (Hook.f.) D.L. Jones & M.A. Clems. [AH].
Caladenia Br.	AG7707	*Caladenia ?* [Archer] [AH]
Cryptostylis Br.	AG7708	*Cryptostylis subulata* (Labill.) Rchb.f. [AR]
Spiranthes Rich.	AG7709	*Spiranthes australis* (R.Br.) Lindl. [AR]
Prasophyllum Br.	AG7710	*Prasophyllum* [AR]
Prasophyllum Br.	AG7711	*Prasophyllum* [Archer] [AH]
Prasophyllum Br.	AG7712	*Prasophyllum* [Archer] [AH]
Caladenia Br. *C. angusttata* (Lindl)	AG7713	*Caladenia angustata* Lindl. [AR]
Genoplesium Br.	AG7714	*Genoplesium archeri* (Hook.f.) D.L. Jones & M.A. Clem. [AH]
Thelymitra Forst.	AG7715	*Thelymitra nuda*. R. Br. [AH]
?	AG7716	*Thelymitra* [AH]
Diuris Sm. D. *pedunculata* Br.	AG7717	*Diuris chryseopsis* D.L. Jones [AR]
Diuris Sm. D. *maculata* Sm.	AG7718	*Diuris pardina* Lindl. [AR]

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